How Can We Help?



Distributor of AN, MS and NAS
Aviation & Electrical Components

1-866-796-5125

Order Online **www.monroeaerospace.com**

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MONROE
AEROSPACE

As one of America's largest stocking distributors of aircraft and mil-spec hardware, we pride ourselves on our extensive product lines. We also have the ability to offer many customer-focused benefits.

Here are a few of the benefits we now offer:

• **No minimum PO:** We understand in today's industry that minimum PO's can sometimes be a hassle, so we have removed them from our order requirements. We have also equipped our distribution center with new equipment. This allows us to custom package your orders with lot traceability, no matter the amount of product lines.

• **Blanket orders are now available:** With long term-releases we will position and bag stock based on your unique timetable and requirements.

• **Vendor managed inventory:** We now have aerospace professionals that can visit your facility and work closely with you to identify processes and procedures which will best fill your bill of materials and ease your workload.

• **Website:** We have a redesigned website with an improved shopping experience visit us at **www.monroeaerospace.com**.

Our mission has always been to provide top-notch products, vast industry expertise and exceptional customer service. We have product specialists ready to take your call, answer your questions and solve your problems of the day.

How can we help?

1-888-760-1066

sales@askmonroe.com

www.monroeaerospace.com

Distribution Center
399 East Drive
Melbourne, FL 32904



WE ARE MONROE

HOW CAN WE HELP?

Here at Monroe, our team lives by one simple question; "How can we help?" For over 60 years, Monroe has grown alongside our customers because we are passionate about solving problems in a quick and efficient manner. When you contact Monroe, you will reach one of our highly trained Sales Engineers that understand all of your needs from both a product line and industry standpoint.

We are constantly expanding our product lines, as well as expanding our contract manufacturing capabilities to offer more custom solutions than ever before! Ask us about our blanket orders, VMI, and consigned inventory options.

The Monroe family thanks you for your business and your confidence in our team!

~MONROE

www.monroeaerospace.com



We are proud to announce that our new website launched 4th quarter 2018.

The following are new and improved features we hope you will enjoy. We appreciate any and all feedback, so please do not hesitate to reach out and tell us your thoughts.

- Mobile website
- Inventory levels
- UPS / FedEx integration
- Save to cart
- Multi parts to cart
- Reorder capabilities



Warehouse!

Distribution Center
399 East Drive
Melbourne, FL 32904

Our Team

Monroe is a global industrial manufacturing and distribution company offering a broad product line. Monroe is AS9100D certified and has a diverse customer base of manufacturers, and distributors across several vertical markets including aerospace/defense, automotive, medical, transportation and many more.
www.monroeengineering.com

Monroe Seals is your source for O-rings, gaskets, extruded rubber, oil seals, spring-energized seals and custom molded rubber of various compounds.
We are proud to serve customers across North America in the Aerospace, automotive, medical, filtration, heavy equipment, oil & gas, and transportation industry sectors.
www.monroeseals.com

How Can We Help?

Take advantage of our knowledge, experience and ever expanding product lines by contacting one of our team members today.

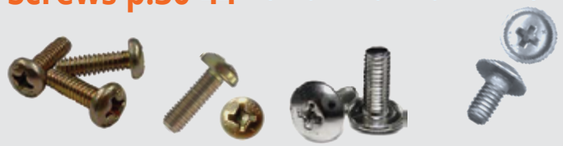
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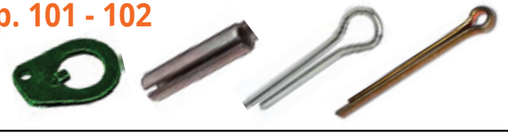
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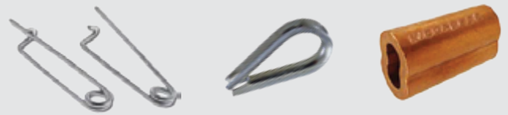
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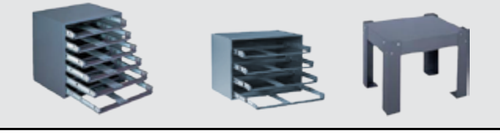
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STAN STOKES

ABOUT THE ARTIST

With more than 50 years as a full time artist, Stan has produced literally hundreds of paintings documenting historical events, people and places. He researches his subjects to assure the accuracy of the smallest detail to preserve its relationship in time. His work now hangs in three presidential Libraries.

Commissioned by the Ronald Reagan Presidential Library in Simi Valley, CA, his huge 12 foot by 120 foot mural of the "History of the Flying White House" is on permanent display in the new Air Force One Pavilion.

The George H.W. Bush Presidential Library in College Station, Texas, has two paintings by Stan on permanent display. Both are of the U.S.S. George H.W. Bush, our nation's next aircraft carrier. In addition to the Ronald Reagan and George H.W. Bush Presidential Libraries, the Gerald R. Ford Presidential Library now has two paintings by Stokes in their collection. One is of the USS Gerald R. Ford, an aircraft carrier that is now under construction. The second of Stan's paintings is of the USS Monterey, the aircraft carrier that a young LT. Gerry Ford served on heroically in WWII.

Three large fine art murals are in the Palm Springs Air Museum; The "Tuskegee Airmen", 12 feet by 60 feet, which has 51 portraits of the real Tuskegee Airmen, "Dauntless at Midway", 12 Feet by 34 feet and "Corsair on Approach", 19 feet by 55 feet.

Since the mid-1980's NASA has commissioned Stan to paint 15 works ranging from the Space Shuttles to the SR 71 Blackbird. Stan has also painted numerous works for Burt Rutan, the cutting edge genius in aviation and space design. Stan's works are in the collections of United States Air Force, the USAF Academy at Colorado Springs, the Pentagon, the San Diego Aerospace Museum, the National Museum of Naval Aviation in Pensacola, GE Aviation, and the Smithsonian's National Air and Space Museum.

His work encompasses portraits, landscapes, automotive, maritime, aviation and western paintings. Stan's art has been published in numerous books and periodicals. His work is highly sought after by museums and collectors alike.

In 1975 Stan won 1st place in the Benedictine Art Awards, and in 1985 won 1st place in the Smithsonian National Air and Space Museum's "Golden Age of Flight" art competition. In May 2000, the National Museum of Naval Aviation honored Stan with the "R.G. Smith Award for Excellence in Naval Aviation Art".



Stan's artwork may be seen at his website:

www.stanstokes.net

Phone
+1 (760) 564-7236

Email
stokesart@earthlink.net

Address
Stan Stokes
P.O. Box 11420
Palm Desert, CA 92255

MONROE AEROSPACE PRODUCT LINE

- AERODUCT DUCTING
- AEROQUIP FIRESLEEVE
- AEROQUIP FITTINGS
- AEROQUIP HOSE
- AIRCRAFT WIRE
- AIRLOC FASTENERS
- BEARINGS
- BLACK BRASS SCREWS
- BRACKET AIR FILTERS
- BOLTS
  - AN, MS, NAS
- BONDING JUMPERS
- BUSHINGS
- BUTT SPLICES
- CABLE CUTTERS
- CABLE HARDWARE
- CAMLOC PLIERS
- CAMLOCS
- CAPLUGS
- CHERRY NUTPLATE RIVETS
- CHERRY RIVETS
- CHERRY RIVET TOOLING
- CIRCUIT BREAKERS
- CLAMPS
- CLEANERS & DEGREASERS
- CLECO FASTENERS
- CLECO TOOLING
- CLEVIS BOLTS
- CLEVIS PINS
- CLEVIS ROD ENDS
- CLEVELAND BRAKE PADS
- CONICAL SEALS
- CONTINENTAL GASKETS
- CONTINENTAL PRODUCTS
- CONTROL CABLE
- COPPER SLEEVES
- CORROSION X
- COTTER PINS
- COVER GASKETS
- COWLING MOUNTS
- CRIMP SPLICES
- CURTIS DRAIN VALVES
- DELRON INSERTS
- DRILL BITS
- DRILL JIGS (PLATE NUT)
- DRILL STOPS
- DZUS FASTENERS
- ELECTRICAL COMPONENTS
- EXHAUST GASKETS
- EYE BOLTS
- FILLISTER HEAD SCREWS
- FITTINGS
  - AN & MS
  - AEROQUIP
- NYLON & BRASS
- STRATOFLEX
- FLOATING CLIP NUTS
- FUSES
- GASKETS
- GREASE
- GREASE FITTINGS
- GROMMETS
- GROMMET EDGING
- HARDWARE KITS
- HEAT SHRINK TUBING
- HI-LOKS AND COLLARS
- HI-LOK TOOLING
- HINGES
- HINGE PINS
- HUCK RIVETS
- HOSE
- HOSE CLAMPS
- INDICATOR LIGHTS
- INSERTS
- HELICOIL
- KEENSERTS
- SANDWICH PANEL
- JO-BOLTS
- KLIXON BREAKERS
- KNIFE SPLICES
- LIGHTING/BULBS
- LORD COWLING MOUNTS
- LOCKING CLIPS, PINS
- LPS PRODUCTS
- LYCOMING PRODUCTS
- MONEL RIVETS
- NIPPLE, ELECTRICAL
- NUTS
- BARRELL NUTS
- CASTLE NUTS
- CHECK NUTS
- CLIPNUTS
- EB NUTS
- EXHAUST NUTS
- INSTRUMENT NUTS
- JAM NUTS
- NYLON CAP NUTS
- PIPER CLIP NUTS
- SELF LOCKING NUTS
- TINNERMAN NUTS
- WING NUTS
- 12 POINT NUTS
- NUTPLATES
- O'RINGS
- PAINTS
- PANEL FASTENERS
- PANEL INSERTS
- PATCH PLATES
- PULLEYS
- POP RIVETS & TOOLING
- POTTER BRUMFIELD BREAKERS
- PULLEYS
- PULLEY GUARD PIN
- QUARTZ LAMPS
- RETAINING RINGS
- RIVETS
- RING TERMINALS
- RIVET NUTS & TOOLING
- SAFETY WIRE
- SCAT HOSE
- SCREWLOCK ASSEMBLIES
- SCREWS
- AN, MS & NAS
- DRIVE SCREWS
- FILLISTER HEAD
- HEX HEAD
- INSTRUMENT
- OHMSC
- SET SCREWS
- SHEET METAL
- SOCKET HEAD
- TAPPING
- WASHER HEAD
- SEALANTS (RTV & SILICONE)
- SEALED BEAM LAMPS
- SHACKLES
- SILICONE COVER GASKETS
- SOLDER SLEEVES
- SOLID RIVETS
- SOUTHCO FASTENERS
- SPACERS
- SPIRAL WRAP
- SPRING PINS
- STRATOFLEX FITTINGS
- STRATOFLEX HOSE
- SWITCH GUARDS
- SWITCHES
- TEMPO PAINTS, PRIMERS
- TERMINAL BOARD ASSEMBLIES
- TERMINAL LINKS
- THIMBLES, CABLES
- TIE WRAPS
- TINNERMAN NUTS
- TINNERMAN WASHERS
- TOGGLE SWITCHES
- TOOLING
- TRIDAIR PRODUCTS
- TURNBUCKLE HARDWARE
- WARNING STREAMERS
- WASHERS
- WIRE
- WIRE CAPS

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MANUFACTURER'S DIRECTORY

- 3V FASTENERS
- AADOX
- ABBOTT
- ACCURATE BUSHING
- ADEL WIGGINS
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- AEROTECH FASTENERS
- AEROSPACE RIVET
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- AIR INDUSTRIES
- ALARIN
- ALCOA
- ALEMITE
- ALLFAST
- ALL-POWER MFG
- ALLSTATES RUBBER
- AMERIFAST
- ANATASE
- ANILLO
- ARVAN
- AURORA BEARING
- AUTOMATIC SCREW
- AVDEL CHERRY TEXTRON
- AVIBANK MFG
- AVK
- B&B SPECIALTIES
- B&E MFG
- BELL MEMPHIS
- BLANC AERO
- BREEZE
- BRISTOL INDUSTRIES
- BURNDY
- BUSSMAN
- CALIFORNIA SCREW
- CAM-TECH INDUSTRIES
- CAPLUG
- CATAMOUNT
- CBS
- CIRCUIT SYSTEMS
- CLECO
- CRESCENT
- DEUTSCH
- DFCI
- DOWELS, PINS & SHAFTS
- DZUS
- EATON
- EMPIRE
- ESNA/SPS
- ETC MOLEX
- F.I.T.
- FABER
- FAFNIR BEARING
- FASTENAIR
- FREEMAN COMPANY
- GENIE
- GERALD DANIEL
- GLENAIR
- GREER
- GUARDIAN
- HEARTLAND PRECISION
- HEIM
- HELI-COIL
- HI-SHEAR
- HYDRO FITTING
- HUCK (ALCOA)
- IDEAL FASTENERS
- INDIANA AIRCRAFT HARDWARE
- INLAND MACHINE COMPANY
- INTERNATIONAL SEAL
- J&M PRODUCTS
- KATO FASTENING SYSTEMS
- KAYNAR
- KLIXON
- LADEAU
- LFC
- LINREAD NORTHBRIDGE
- LONG-LOK
- LOOS
- MAGNA-AIRE
- MARSON
- MARTIN COMPANY
- MICRO PLASTICS
- MICRODOT INSERT
- MICROSWITCH
- MINI-MAC
- MINOR RUBBER
- MOELLER
- MONADNOCK
- MONOGRAM
- M.R.L.
- NATIONAL RIVET
- NEW HAMPSHIRE BEARING
- NMB TECHNOLOGIES
- NYLON MOLDING
- OBM (OTT BROS)
- OHIO GASKET
- PAMCO
- PAOLO ASTORI
- PANDUIT
- PARKER HANNIFIN
- PB FASTENERS
- PERMASWAGE / NELSON/HK
- PILGRIM SCREW
- POP
- POTTER & BRUMFIELD
- PRECISION FORM RIVET
- PRECISION SHAPES
- R&B ELECTRONICS
- RALMARK
- RAYCHEM
- RBC-HEIM BEARING
- RISCO, INC.
- ROSAN
- SATURN FASTENERS
- SCHATZ BEARING
- SCOVILL
- SCREWCORP
- SEASTROM
- SESCO
- SHAW
- SHUR-LOCK
- SIMMONDS / MECAERO
- SKY MFG
- SOUTHCO
- SPIROL
- SPS
- STELLEX BANDY HINGE
- STRATOFLEX
- SUPERIOR WASHER
- TEXAS INSTRUMENTS
- THOMAS & BETTS
- TIMKEN SUPER PRECISION
- TINNERMAN
- TORRINGTON CO
- TRIDAIR
- TRI-FITTING MFG
- TYTON CORP
- UMPCO
- VAN PETTY
- VOISHAN
- WEST COAST LOCKWASHER
- WESTERN WIRE
- YOUNG ENGINEERS

MONROE AEROSPACE has manufacturer's certification available on all Mil-Spec and Aerospace Hardware

Distribution Center
399 East Drive
Melbourne, FL 32904

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MONROE AEROSPACE QUALITY SYSTEMS

Our policy "Uncompromised Quality and Service" is a commitment to error free performance and continuous improvement to assure consistent conformance to our customers' expectations. Conformance to ISO 9001:2015 establishes the following guidelines on which we base our quality system.

Quality Planning

1) Our Quality Policy is understood and implemented at all levels of our organization encompassing the quality of our product and the quality of our service.

Quality Manual

2) Our Quality manual is available for review by our customers, governmental and regulatory agencies.

Customer Purchase Order Review

3) Procedures are in place to review all customer orders and contracts to assure our customers' requirements will be met.

Document and Data Control

4) All documents pertaining to methods and procedures used by Monroe Aerospace are controlled and updated to ensure that only current revision documents are utilized.

Purchasing

5) Purchasing procedures have been established to assure that Monroe Aerospace will purchase only from approved vendors. Approved quality surveys are on file documenting compliance to Monroe Aerospace standards of quality, thus insuring consistant high quality products sold by Monroe Aerospace.

Product Traceability

6) Product traceability is of paramount importance and procedures are in place to track, identify and trace all products through receiving, processing, stocking and delivery.

Process Controls

7) Process control documents work instruction defining all methods to control quality of our product and service

Inspection and Testing

8) Inspection and testing procedures establish methods to insure all incoming product is inspected to ensure conformance to prints prior to storage or being released. Statistical techniques are used to verify acceptability of products.

Control of Inspection and Measuring Equipment

9) Monroe Aerospace has established methods for the control and calibration of all inspection, measuring and test equipment and complete records are maintained in compliance with the National Institute of Standards and testing.

Inspection Status

10) Procedures are established outlining the inspection of all products throughout all processes and records are maintained identifying the status of products from receiving through storage to delivery.

Control of Non-Conforming Product

11) Monroe Aerospace has developed procedures for control, identification, segreation, documentation, evaluation and disposition of non-conforming products.

Corrective and Preventive

12) Corrective and preventive action procedures outline measures to eliminate causes of actual or potential non-conformities. Procedures are outlined determining the corrective action required to eliminate the cause of a non-conformity.

Handling, Packaging and Delivery Procedures

13) Procedures have been established defining methods used for the product handling, storage, packaging, preservation and deliverey of products.

Control of Quality Records

14) Monroe Aerospace has procedures to control all quality records such as manufacturers' certifications, inspection records and all other records affecting quality for a minimum of 7 years.

Training

15) Training records are kept on all employees to assure complete and ongoing training.

Internal Quality Audits

16) Internal Quality Audits are continuously performed to verify that quality activities and related results comply with planned procedures and to determine the effectiveness of Monroe Aerospace Quality Systems.

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AMTIVO

CERTIFICATE OF REGISTRATION

The management system of certificate number **261832**

ECAS LLC dba Monroe Aerospace

300 North Drive, #100, Melbourne, FL, 32934, USA

has been audited in accordance with the requirements of AS 9104/1 dated 2012-01

AS 9100 D / ISO 9001: 2015

Provider of Commercial, Aviation, Space & Defense Components including but not Limited to Hardware, Machined and Fabricated Parts, Integrated Circuits, Connectors, Industrial Hardware and Airframe Components

Further clarifications regarding the scope of this certificate and the applicability of requirements may be obtained by consulting the certifier.

ANAB ACCREDITED MANAGEMENT SYSTEMS CERTIFICATION BODY

Initial certification: Wednesday, August 31, 2016
Current cycle start: Tuesday, August 19, 2025
Latest issue: Monday, July 28, 2025
Expiry date: Friday, August 18, 2028
Subject to annual assessments

Certification structure: Single

Authorized by

Mike Tims
Chief Executive Officer

amtivo.us

Certificate issued by Amtivo (USA) Inc.

Amtivo (USA) Inc. is accredited under the (ICOP) Industry Controlled Other Party (Americas) scheme

Certification is conditional on maintaining the required performance standards throughout the certified period of registration.
Amtivo (USA) Inc, 7502 W. 80th Avenue, STE. 225 Arvada, Colorado 80003-2128, USA.

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AN3 AIRFRAME BOLT
(10 - 32 Thread)



AN3-# A (Undrilled Shank)
AN3-# (Drilled Shank)

DESCRIPTION		AN3 -	AN3 -
Length	Grip	Undrilled	Drilled
15/32	1/16	3A	3
17/32	1/8	4A	4
21/32	1/4	5A	5
25/32	3/8	6A	6
29/32	1/2	7A	7
1 - 1/32	5/8	10A	10
1 - 5/32	3/4	11A	11
1 - 9/32	7/8	12A	12
1 - 13/32	1	13A	13
1 - 17/32	1 - 1/8	14A	14
1 - 21/32	1 - 1/4	15A	15
1 - 25/32	1 - 3/8	16A	16
1 - 29/32	1 - 1/2	17A	17
2 - 1/32	1 - 5/8	20A	20
2 - 5/32	1 - 3/4	21A	21
2 - 9/32	1 - 7/8	22A	22
2 - 13/32	2	23A	23
2 - 17/32	2 - 1/8	24A	24
2 - 21/32	2 - 1/4	25A	25
2 - 25/32	2 - 3/8	26A	26
2 - 29/32	2 - 1/2	27A	27
3 - 1/32	2 - 5/8	30A	30
3 - 5/32	2 - 3/4	31A	31
3 - 9/32	2 - 7/8	32A	32
3 - 13/32	3	33A	33
3 - 17/32	3 - 1/8	34A	34
3 - 21/32	3 - 1/4	35A	35
3 - 25/32	3 - 3/8	36A	36
3 - 29/32	3 - 1/2	37A	37
4 - 1/32	3 - 5/8	40A	40
4 - 5/32	3 - 3/4	41A	41
4 - 9/32	3 - 7/8	42A	42
4 - 13/32	4	43A	43
4 - 17/32	4 - 1/8	44A	44
4 - 21/32	4 - 1/4	45A	45

AN3C AIRFRAME BOLT CORROSION RESISTANT
(10 - 32 Thread)



AN3C # A (Undrilled Shank)
AN3C # (Drilled Shank)

DESCRIPTION		AN3 C	AN3 C
Length	Grip	Undrilled	Drilled
15/32	1/16	3A	3
17/32	1/8	4A	4
21/32	1/4	5A	5
25/32	3/8	6A	6
29/32	1/2	7A	7
1 - 1/32	5/8	10A	10
1 - 5/32	3/4	11A	11
1 - 9/32	7/8	12A	12
1 - 13/32	1	13A	13
1 - 17/32	1 - 1/8	14A	14
1 - 21/32	1 - 1/4	15A	15
1 - 25/32	1 - 3/8	16A	16

AN3H AIRFRAME BOLT DRILLED HEAD
(10 - 32 Thread)



AN3H# A (Undrilled Shank)
AN3H# (Drilled Shank)

DESCRIPTION		Undrilled	Drilled
Length	Grip	AN3 H	AN3 H
15/32	1/16	3A	3
17/32	1/8	4A	4
21/32	1/4	5A	5
25/32	3/8	6A	6
29/32	1/2	7A	7
1 - 1/32	5/8	10A	10
1 - 5/32	3/4	11A	11
1 - 9/32	7/8	12A	12
1 - 13/32	1	13A	13
1 - 17/32	1 - 1/8	14A	14
1 - 21/32	1 - 1/4	15A	15
1 - 25/32	1 - 3/8	16A	16

For the most up-to-date inquiry of our stock, give one of our Sales Associates a call at:

1-800-330-3975

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AN4 AIRFRAME BOLT
(1/4-28 Thread)



AN4-#A (Undrilled Shank)
AN4-# (Drilled Shank)

DESCRIPTION		AN4	AN4
Length	Grip	Undrilled	Drilled
15/32	1/16	3A	3
17/32	1/16	4A	4
21/32	3/16	5A	5
25/32	5/16	6A	6
29/32	7/16	7A	7
1 - 1/32	9/16	10A	10
1 - 5/32	11/16	11A	11
1 - 9/32	13/16	12A	12
1 - 13/32	15/16	13A	13
1 - 17/32	1 - 1/16	14A	14
1 - 21/32	1 - 3/16	15A	15
1 - 25/32	1 - 5/16	16A	16
1 - 29/32	1 - 7/16	17A	17
2 - 1/32	1 - 9/16	20A	20
2 - 5/32	1 - 11/16	21A	21
2 - 9/32	1 - 13/16	22A	22
2 - 13/32	1 - 15/16	23A	23
2 - 17/32	2 - 1/16	24A	24
2 - 21/32	2 - 3/16	25A	25
2 - 25/32	2 - 5/16	26A	26
2 - 29/32	2 - 7/16	27A	27
3 - 1/32	2 - 9/16	30A	30
3 - 5/32	2 - 11/16	31A	31
3 - 9/32	2 - 13/16	32A	32
3 - 13/32	2 - 15/16	33A	33
3 - 17/32	3 - 1/16	34A	34
3 - 21/32	3 - 3/16	35A	35
3 - 25/32	3 - 5/16	36A	36
3 - 29/32	3 - 7/16	37A	37
4 - 1/32	3 - 9/16	40A	40
4 - 5/32	3 - 11/16	41A	41
4 - 9/32	3 - 13/16	42A	42
4 - 13/32	3 - 15/16	43A	43
4 - 17/32	4 - 1/16	44A	44
4 - 21/32	4 - 3/16	45A	45
4 - 25/32	4 - 5/16	46A	46
4 - 29/32	4 - 7/16	47A	47
5 - 1/32	4 - 9/16	50A	50
5 - 5/32	4 - 11/16	51A	51
5 - 9/32	4 - 13/16	52A	52
5 - 13/32	4 - 15/16	53A	53
5 - 17/32	5 - 1/16	54A	54
5 - 21/32	5 - 3/16	55A	55
5 - 25/32	5 - 5/16	56A	56
5 - 29/32	5 - 7/16	57A	57
6 - 1/32	5 - 9/16	60A	60
6 - 5/32	5 - 11/16	61A	61
6 - 9/32	5 - 13/16	62A	62

AN4C AIRFRAME BOLT CORROSION RESISTANT
(1/4-28 Thread)



AN4C-#A (Undrilled Shank)
AN4C-# (Drilled Shank)

DESCRIPTION		AN4C-	AN4C-
Length	Grip	Undrilled	Drilled
15/32	1/16	3A	3
17/32	1/16	4A	4
21/32	3/16	5A	5
25/32	5/16	6A	6
29/32	7/16	7A	7
1 - 1/32	9/16	10A	10
1 - 5/32	11/16	11A	11
1 - 9/32	13/16	12A	12
1 - 13/32	15/16	13A	13
1 - 17/32	1 - 1/16	14A	14
1 - 21/32	1 - 3/16	15A	15
1 - 25/32	1 - 5/16	16A	16
1 - 29/32	1 - 7/16	17A	17
2 - 1/32	1 - 9/16	20A	20
2 - 5/32	1 - 11/16	21A	21
2 - 9/32	1 - 13/16	22A	22
2 - 13/32	1 - 15/16	23A	23
2 - 17/32	2 - 1/16	24A	24
2 - 25/32	2 - 5/16	26A	26

AN4H AIRFRAME BOLT
(1/4-28 Thread)



AN4H-#A Drilled Head
With Undrilled Shank

DESCRIPTION		AN4H-#A
Length	Grip	Undrilled
15/32	1/16	3A
17/32	1/16	4A
21/32	3/16	5A
25/32	5/16	6A
29/32	7/16	7A
1 - 1/32	9/16	10A
1 - 5/32	11/16	11A
1 - 9/32	13/16	12A
1 - 13/32	15/16	13A
1 - 17/32	1 - 1/16	14A
1 - 21/32	1 - 3/16	15A
1 - 25/32	1 - 5/16	16A
1 - 29/32	1 - 7/16	17A
2 - 1/32	1 - 9/16	20A
2 - 5/32	1 - 11/16	21A
2 - 9/32	1 - 13/16	22A
2 - 13/32	1 - 15/16	23A
2 - 17/32	2 - 1/16	24A
2 - 21/32	2 - 3/16	25A
2 - 25/32	2 - 5/16	26A
2 - 29/32	2-7/16	27A
3 - 1/32	2-9/16	30A

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN5 AIRFRAME BOLT
(5/16-24 Thread)



AN5-#A (Undrilled Shank)
AN5-# (Drilled Shank)

DESCRIPTION		AN5	AN5
Length	Grip	Undrilled	Drilled
19/32	1/16	4A	4
23/32	3/16	5A	5
27/32	5/16	6A	6
31/32	7/16	7A	7
1 - 3/32	9/16	10A	10
1 - 7/32	11/16	11A	11
1 - 11/32	13/16	12A	12
1 - 15/32	15/16	13A	13
1 - 19/32	1 - 1/16	14A	14
1 - 23/32	1 - 3/16	15A	15
1 - 27/32	1 - 5/16	16A	16
1 - 31/32	1 - 7/16	17A	17
2 - 3/32	1 - 9/16	20A	20
2 - 7/32	1 - 11/16	21A	21
2 - 11/32	1 - 13/16	22A	22
2 - 15/32	1 - 15/16	23A	23
2 - 19/32	2 - 1/16	24A	24
2 - 23/32	2 - 3/16	25A	25
2 - 27/32	2 - 5/16	26A	26
2 - 31/32	2 - 7/16	27A	27
3 - 3/32	2 - 9/16	30A	30
3 - 7/32	2 - 11/16	31A	31
3 - 11/32	2 - 13/16	32A	32
3 - 15/32	2 - 15/16	33A	33
3 - 19/32	3 - 1/16	34A	34
3 - 23/32	3 - 3/16	35A	35
3 - 27/32	3 - 5/16	36A	36
3 - 31/32	3 - 7/16	37A	37
4 - 3/32	3 - 9/16	40A	40
4 - 7/32	3 - 11/16	41A	41
4 - 11/32	3 - 13/16	42A	42
4 - 15/32	3 - 15/16	43A	43
4 - 19/32	4 - 1/16	44A	44
4 - 23/32	4 - 3/16	45A	45
4 - 27/32	4 - 5/16	46A	46
4 - 31/32	4 - 7/16	47A	47
5 - 3/32	4 - 9/16	50A	50
5 - 7/32	4 - 11/16	51A	51
5 - 11/32	4 - 13/16	52A	52
5 - 15/32	4 - 15/16	53A	53
5 - 19/32	5 - 1/16	54A	54
5 - 23/32	5 - 3/16	55A	55
5 - 27/32	5 - 5/16	56A	56
5 - 31/32	5 - 7/16	57A	57

AN5H#A ***(5/16-24 Thread)***
Drilled Head, Undrilled Shank
AN5C#A ***(5/16-24 Thread)***
Corrosion Resistant Steel

AN6 AIRFRAME BOLT
(3/8-24 Thread)



AN6-#A (Undrilled Shank)
AN6-# (Drilled Shank)

DESCRIPTION		AN6	AN6
Length	Grip	Undrilled	Drilled
45/64	1/16	5A	5
53/64	3/16	6A	6
61/64	5/16	7A	7
1 - 5/64	7/16	10A	10
1 - 13/64	9/16	11A	11
1 - 21/64	11/16	12A	12
1 - 29/64	13/16	13A	13
1 - 37/64	15/16	14A	14
1 - 45/64	1 - 1/16	15A	15
1 - 53/64	1 - 3/16	16A	16
1 - 61/64	1 - 5/16	17A	17
2 - 5/64	1 - 7/16	20A	20
2 - 13/64	1 - 9/16	21A	21
2 - 21/64	1 - 11/16	22A	22
2 - 29/64	1 - 13/16	23A	23
2 - 37/64	1 - 15/16	24A	24
2 - 45/64	2 - 1/16	25A	25
2 - 53/64	2 - 3/16	26A	26
2 - 61/64	2 - 5/16	27A	27
3 - 5/64	2 - 7/16	30A	30
3 - 13/64	2 - 9/16	31A	31
3 - 21/64	2 - 11/16	32A	32
3 - 29/64	2 - 13/16	33A	33
3 - 37/64	2 - 15/16	34A	34
3 - 45/64	3 - 1/16	35A	35
3 - 53/64	3 - 3/16	36A	36
3 - 61/64	3 - 5/16	37A	37
4 - 5/64	3 - 7/16	40A	40
4 - 13/64	3 - 9/16	41A	41
4 - 21/64	3 - 11/16	42A	42
4 - 29/64	3 - 13/16	43A	43
4 - 37/64	3 - 15/16	44A	44
4 - 45/64	4 - 1/16	45A	45
4 - 53/64	4 - 3/16	46A	46
4 - 61/64	4 - 5/16	47A	47
5 - 5/64	4 - 7/16	50A	50
5 - 13/64	4 - 9/16	51A	51
5 - 21/64	4 - 11/16	52A	52
5 - 29/64	4 - 13/16	53A	53
5 - 37/64	4 - 15/16	54A	54
5 - 45/64	5 - 1/16	55A	55
5 - 53/64	5 - 3/16	56A	56
5 - 61/64	5 - 5/16	57A	57
6 - 5/64	5 - 7/16	60A	60
6 - 13/64	5 - 9/16	61A	61
6 - 29/64	5 - 13/16	63A	63

AN6H#A ***(3/8-24 Thread)***
Drilled Head, Undrilled Shank
AN6C#A ***(3/8-24 Thread)***
Corrosion Resistant Steel

AN7 AIRFRAME BOLT
(7/16-20 Thread)



AN7-#A (Undrilled Shank)
AN7-# (Drilled Shank)

DESCRIPTION		AN7	AN7
Length	Grip	Undrilled	Drilled
1 - 3/32	7/16	10A	10
1 - 7/32	9/16	11A	11
1 - 11/32	11/16	12A	12
1 - 15/32	13/16	13A	13
1 - 19/32	15/16	14A	14
1 - 23/32	1 - 1/16	15A	15
1 - 27/32	1 - 3/16	16A	16
1 - 31/32	1 - 5/16	17A	17
2 - 3/32	1 - 7/16	20A	20
2 - 7/32	1 - 9/16	21A	21
2 - 11/32	1 - 11/16	22A	22
2 - 15/32	1 - 13/16	23A	23
2 - 19/32	1 - 15/16	24A	24
2 - 23/32	2 - 1/16	25A	25
2 - 27/32	2 - 3/16	26A	26
2 - 31/32	2 - 5/16	27A	27
3 - 3/32	2 - 7/16	30A	30
3 - 7/32	2 - 9/16	31A	31
3 - 11/32	2 - 11/16	32A	32
3 - 15/32	2 - 13/16	33A	33
3 - 19/32	2 - 15/16	34A	34
3 - 23/32	3 - 1/16	35A	35
3 - 27/32	3 - 3/16	36A	36
3 - 31/32	3 - 5/16	37A	37
4 - 3/32	3 - 7/16	40A	40
4 - 7/32	3 - 9/16	41A	41
4 - 11/32	3 - 11/16	42A	42
4 - 15/32	3 - 13/16	43A	43
4 - 19/32	3 - 15/16	44A	44
4 - 23/32	4 - 1/16	45A	45
4 - 27/32	4 - 3/16	46A	46
4 - 31/32	4 - 5/16	47A	47
5 - 3/32	4 - 7/16	50A	50
5 - 7/32	4 - 9/16	51A	51
5 - 11/32	4 - 11/16	52A	52
5 - 15/32	4 - 13/16	53A	53
5 - 19/32	4 - 15/16	54A	54
5 - 23/32	5 - 1/16	55A	55
5 - 27/32	5 - 3/16	56A	56
5 - 31/32	5 - 5/16	57A	57
6 - 3/32	5 - 7/16	60A	60

AN8 AIRFRAME BOLT
(1/2-20 Thread)



AN8-#A (Undrilled Shank)
AN8-# (Drilled Shank)

DESCRIPTION		AN8	AN8
Length	Grip	Undrilled	Drilled
1 - 7/32	7/16	11A	11
1 - 11/32	9/16	12A	12
1 - 15/32	11/16	13A	13
1 - 19/32	13/16	14A	14
1 - 23/32	15/16	15A	15
1 - 27/32	1 - 1/16	16A	16
1 - 31/32	1 - 3/16	17A	17
2 - 3/32	1 - 5/16	20A	20
2 - 7/32	1 - 7/16	21A	21
2 - 11/32	1 - 9/16	22A	22
2 - 15/32	1 - 11/16	23A	23
2 - 19/32	1 - 13/16	24A	24
2 - 23/32	1 - 15/16	25A	25
2 - 27/32	2 - 1/16	26A	26
2 - 31/32	2 - 3/16	27A	27
3 - 3/32	2 - 5/16	30A	30
3 - 7/32	2 - 7/16	31A	31
3 - 11/32	2 - 9/16	32A	32
3 - 15/32	2 - 11/16	33A	33
3 - 19/32	2 - 13/16	34A	34
3 - 23/32	2 - 15/16	35A	35
3 - 27/32	3 - 1/16	36A	36
3 - 31/32	3 - 3/16	37A	37
4 - 3/32	3 - 5/16	40A	40
4 - 7/32	3 - 7/16	41A	41
4 - 11/32	3 - 9/16	42A	42
4 - 15/32	3 - 11/16	43A	43
4 - 19/32	3 - 13/16	44A	44
4 - 23/32	3 - 15/16	45A	45
4 - 27/32	4 - 1/16	46A	46
4 - 31/32	4 - 3/16	47A	47
5 - 3/32	4 - 5/16	50A	50
5 - 7/32	4 - 7/16	51A	51
5 - 11/32	4 - 9/16	52A	52

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN173 Close Tolerance Bolt
(.1900-32 Thread)



"A" Following Dash #
Indicates Undrilled Shank

Description		AN173	AN173
Length	Grip	Undrilled	Drilled
15/32	1/16	3A	3
17/32	1/8	4A	4
21/32	1/4	5A	5
25/32	3/8	6A	6
29/32	1/2	7A	7
1 - 1/32	5/8	10A	10
1 - 5/32	3/4	11A	11
1 - 9/32	7/8	12A	12
1 - 13/32	1	13A	13
1 - 17/32	1 - 1/8	14A	14
1 - 21/32	1 - 1/4	15A	15
1 - 25/32	1 - 3/8	16A	16
1 - 29/32	1 - 1/2	17A	17
2 - 1/32	1 - 5/8	20A	20

AN174 Close Tolerance Bolt
(.2500-28 Thread)



"A" Following Dash #
Indicates Undrilled Shank

Description		AN174	AN174
Length	Grip	Undrilled	Drilled
21/32	3/16	5A	5
25/32	5/16	6A	6
29/32	7/16	7A	7
1 - 1/32	9/16	10A	10
1 - 5/32	11/16	11A	11
1 - 9/32	13/16	12A	12
1 - 13/32	15/16	13A	13
1 - 17/32	1 - 1/16	14A	14
1 - 21/32	1 - 3/16	15A	15
1 - 25/32	1 - 5/16	16A	16
1 - 29/32	1 - 7/16	17A	17
2 - 1/32	1 - 9/16	20A	20
2 - 5/32	1 - 11/16	21A	21
2 - 9/32	1 - 13/16	22A	22
2 - 13/32	1 - 15/16	23A	23
2 - 17/32	2 - 1/16	24A	24
2 - 21/32	2 - 3/16	25A	25
2 - 25/32	2 - 5/16	26A	26
2 - 29/32	2 - 7/16	27A	27
3 - 1/32	2 - 9/16	30A	30
3 - 5/32	2 - 11/16	31A	31
3 - 9/32	2 - 13/16	32A	32
3 - 13/32	2 - 15/16	33A	33
3 - 17/32	3 - 1/16	34A	34
3 - 21/32	3 - 3/16	35A	35

AN175 Close Tolerance Bolt
(.3125-24 Thread)



"A" Following Dash #
Indicates Undrilled Shank

Description		AN175	AN175
Length	Grip	Undrilled	Drilled
1 - 3/32	9/16	10A	10
1 - 7/32	11/16	11A	11
1 - 11/32	13/16	12A	12
1 - 15/32	15/16	13A	13
1 - 19/32	1 - 1/16	14A	14
1 - 23/32	1 - 3/16	15A	15
1 - 27/32	1 - 5/16	16A	16
1 - 31/32	1 - 7/16	17A	17
2 - 3/32	1 - 9/16	20A	20
2 - 7/32	1 - 11/16	21A	21
2 - 11/32	1 - 13/16	22A	22
2 - 15/32	1 - 15/16	23A	23
2 - 19/32	2 - 1/16	24A	24
2 - 23/32	2 - 3/16	25A	25
2 - 27/32	2 - 5/16	26A	26
2 - 31/32	2 - 7/16	27A	27
3 - 3/32	2 - 9/16	30A	30
3 - 7/32	2 - 11/16	31A	31
3 - 11/32	2 - 13/16	32A	32
3 - 15/32	2 - 15/16	33A	33

AN176 Close Tolerance Bolt
(.3750-24 Thread)



"A" Following Dash #
Indicates Undrilled Shank

Description		AN176	AN176
Length	Grip	Undrilled	Drilled
1 - 5/64	7/16	10A	10
1 - 13/64	9/16	11A	11
1 - 21/64	11/16	12A	12
1 - 29/64	13/16	13A	13
1 - 37/64	15/16	14A	14
1 - 45/64	1 - 1/16	15A	15
1 - 53/64	1 - 3/16	16A	16
1 - 61/64	1 - 5/16	17A	17
2 - 5/64	1 - 7/16	20A	20
2 - 13/64	1 - 9/16	21A	21
2 - 21/64	1 - 11/16	22A	22
2 - 29/64	1 - 13/16	23A	23

Special Note:

Uncommon AN175 & AN176 bolts may require a leadtime and factory minimums. Stock availability may be subject to a prior sale and significant price fluctuations.

SPECIALTY CLOSE TOLERANCE BOLTS



"A" Following Dash Number Indicates Undrilled Shank
"C" Following Basic Part Number Indicates Corrosion Resistant Steel
"H" Following Basic Part Number Indicates Drilled Head

Length	Grip	Part #
5/8	1/4	AN173C5
5/8	1/4	AN173C5A
3/4	3/8	AN173C6A
1	5/8	AN173C10A
1 - 1/4	7/8	AN173C12A
7/8	7/16	AN174C7A
5/8	3/16	AN174H5A
3/4	5/16	AN174H6A
7/8	7/16	AN174H7A
1	9/16	AN174H10A
1 - 1/8	11/16	AN174H11A
1 - 1/4	13/16	AN174H12A
1 - 3/8	15/16	AN174H13A
1 - 17/32	1 - 1/16	AN174H14A
1 - 3/4	1 - 5/16	AN174H16A
2 - 1/4	1 - 13/16	AN174H22A
3 - 7/32	2 - 11/16	AN175C32A
2 - 9/32	2 - 3/16	AN176-26
4 - 11/32	3 - 11/16	AN176-42
5 - 3/64	4 - 7/16	AN176-50
5 - 11/64	4 - 9/16	AN176-51
9/32	3/16	AN176H7A
2 - 5/16	1 - 11/16	AN177-22
2 - 13/16	2 - 3/16	AN177-26
2 - 15/16	2 - 5/16	AN177-27
3 - 7/16	2 - 13/16	AN177-33
3 - 15/16	3 - 5/16	AN177-37
4 - 5/16	3 - 11/16	AN177-42
2 - 13/16	2 - 1/16	AN178-26
4 - 1/16	3 - 5/16	AN178-40

EYE BOLT



AN42B (10-32 UNF-3A Thread)
AN43B (1/4-28 UNF-3A Thread)
"A" Following Dash # Indicates Undrilled Shank

AN42B	Grip	Length	AN43B	Grip	Length
3A	1/6	15/32	3A	---	---
4A	1/8	17/32	4A	1/16	17/32
5A	1/4	21/32	5A	3/16	21/32
6A	3/8	25/32	6A	5/16	25/32
7A	1/2	29/32	7A	7/16	29/32
10A	5/8	1 - 1/32	10A	9/16	1 - 1/32
11A	3/4	1 - 5/32	11A	11/16	1 - 5/32
12A	7/8	1 - 9/32	12A	13/16	1 - 9/32
13A	1	1 - 13/32	13A	15/16	1 - 13/32
14A	1 - 1/8	1 - 17/32	14A	1 - 1/16	1 - 17/32
15A	1 - 1/4	1 - 21/32	15A	1 - 3/16	1 - 21/32
16A	1 - 3/8	1 - 25/32	16A	1 - 5/16	1 - 25/32
17A	1 - 1/2	1 - 29/32	17A	1 - 7/16	1 - 29/32
20A	1 -5/8	2 - 1/32	20A	1 - 9/16	2 - 1/32

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

CLEVIS BOLT



AN 23-#A (10-32 Undrilled Shank) *AN 24-#A (1/4-28 Undrilled Shank)*
AN23- # (10-32 Drilled Shank) *AN24- # (1/4-28 Drilled Shank)*

Length	Grip	AN23		AN24	
		Undrilled	Drilled	Undrilled	Drilled
17/32	3/16	8A	8	8A	8
19/32	1/4	9A	9	9A	9
21/32	5/16	10A	10	10A	10
23/32	3/8	11A	11	11A	11
25/32	7/16	12A	12	12A	12
27/32	1/2	13A	13	13A	13
29/32	9/16	14A	14	14A	14
31/32	5/8	15A	15	15A	15
1 - 1/32	11/16	16A	16	16A	16
1 - 3/32	3/4	17A	17	17A	17
1 - 5/32	13/16	18A	18	18A	18
1 - 7/32	7/8	19A	19	19A	19
1 - 9/32	15/16	20A	20	20A	20
1 - 11/32	1	21A	21	21A	21
1 - 13/32	1 - 1/16	22A	22	22A	22
1 - 15/32	1 - 1/8	23A	23	23A	23
1 - 17/32	1 - 3/16	24A	24	24A	24
1 - 19/32	1 - 1/4	25A	25	25A	25
1 - 21/32	1 - 5/16	26A	26	26A	26
1 - 23/32	1 - 3/8	27A	27	27A	27
1 - 27/32	1 - 1/2	29A	29	29A	29
1 - 31/32	1 - 5/8	31A	31	31A	31
2 - 17/32	2 - 3/16	40A	40	40A	40

CLEVIS PIN



MS20392-1C, MS20392-2C, MS20392-3C

Effective Length	MS20392	MS20392	MS20392
.219	1C7	2C7	--
.281	1C9	2C9	--
.344	1C11	2C11	3C11
.406	1C13	2C13	3C13
.469	1C15	2C15	3C15
.531	1C17	2C17	3C17
.594	1C19	2C19	3C19
.656	1C21	2C21	3C21
.719	1C23	2C23	3C23
.781	1C25	2C25	3C25
.844	1C27	2C27	3C27
.906	1C29	2C29	3C29
.969	1C31	2C31	3C31
1.031	1C33	2C33	3C33
1.094	1C35	2C35	3C35
1.156	1C37	2C37	3C37
1.219	1C39	2C39	3C39
1.281	1C41	2C41	3C41
1.344	1C43	2C43	3C43
1.406	1C45	2C45	3C45
1.469	1C47	2C47	3C47
1.531	1C49	2C49	3C49
1.656	1C53	2C53	3C53
1.719	1C55	2C55	3C55
1.781	1C57	2C57	3C57
1.969	1C63	2C63	3C63

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS6203 Close Tolerance Bolt
(.1900-32 Thread)



"D" Following Dash # for Drilled Shank
"H" Following Dash # for Drilled Head

Description		NAS6203	NAS6203
Length	Grip ± .010	Undrilled	Drilled
.385	.062	1	1D
.448	.125	2	2D
.511	.188	3	3D
.573	.250	4	4D
.635	.312	5	5D
.698	.375	6	6D
.761	.438	7	7D
.823	.500	8	8D
.885	.562	9	9D
.948	.625	10	10D
1.011	.688	11	11D
1.073	.750	12	12D
1.135	.812	13	13D
1.198	.875	14	14D
1.261	.938	15	15D
1.323	1.000	16	16D
1.385	1.062	17	17D
1.448	1.125	18	18D
1.511	1.188	19	19D
1.573	1.250	20	20D
1.635	1.312	21	21D
1.698	1.375	22	22D
1.761	1.438	23	23D
1.823	1.500	24	24D
1.885	1.562	25	25D
1.948	1.625	26	26D
2.011	1.688	27	27D
2.073	1.750	28	28D
2.135	1.812	29	29D
2.198	1.875	30	30D
2.261	1.938	31	31D
2.323	2.000	32	32D
2.448	2.125	34	34D
2.573	2.250	36	36D
2.698	2.375	38	38D

Supercedes NAS464P3 and NAS1103 Series

NAS6204 Close Tolerance Bolt
(.2500-28 Thread)



"D" Following Dash # for Drilled Shank
"H" Following Dash # for Drilled Head

Description		NAS6204	NAS6204
Length	Grip ± .010	Undrilled	Drilled
.432	.062	1	1D
.495	.125	2	2D
.558	.188	3	3D
.620	.250	4	4D
.682	.312	5	5D
.745	.375	6	6D
.808	.438	7	7D
.870	.500	8	8D
.932	.562	9	9D
.995	.625	10	10D
1.058	.688	11	11D
1.120	.750	12	12D
1.182	.812	13	13D
1.245	.875	14	14D
1.308	.938	15	15D
1.370	1.000	16	16D
1.432	1.062	17	17D
1.495	1.125	18	18D
1.558	1.188	19	19D
1.620	1.250	20	20D
1.682	1.312	21	21D
1.745	1.375	22	22D
1.808	1.438	23	23D
1.870	1.500	24	24D
1.932	1.562	25	25D
1.995	1.625	26	26D
2.058	1.688	27	27D
2.120	1.750	28	28D
2.182	1.812	29	29D
2.245	1.875	30	30D
2.308	1.938	31	31D
2.370	2.000	32	32D
2.495	2.125	34	34D
2.620	2.250	36	36D
2.745	2.375	38	38D
2.870	2.500	40	40D
2.995	2.625	42	42D
3.120	2.750	44	44D
3.245	2.875	46	46D
3.370	3.000	48	48D
3.495	3.125	50	50D
3.620	3.250	52	52D
3.745	3.375	54	54D
3.870	3.500	56	56D

Supercedes NAS464P4 and NAS1104 Series

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS6205 Close Tolerance Bolt
(.3125-24 Thread)



"D" Following Dash # for Drilled Shank
"H" Following Dash # for Drilled Head

Description		NAS6205	NAS6205
Length	Grip±.010	Undrilled	Drilled
.563	.125	2	2D
.626	.188	3	3D
.688	.250	4	4D
.750	.312	5	5D
.813	.375	6	6D
.876	.438	7	7D
.938	.500	8	8D
1.000	.562	9	9D
1.063	.625	10	10D
1.126	.688	11	11D
1.188	.750	12	12D
1.250	.812	13	13D
1.313	.875	14	14D
1.376	.938	15	15D
1.438	1.000	16	16D
1.500	1.062	17	17D
1.563	1.125	18	18D
1.626	1.188	19	19D
1.688	1.250	20	20D
1.750	1.312	21	21D
1.813	1.375	22	22D
1.876	1.438	23	23D
1.938	1.500	24	24D
2.000	1.562	25	25D
2.063	1.625	26	26D
2.126	1.688	27	27D
2.188	1.750	28	28D
2.250	1.812	29	29D
2.313	1.875	30	30D
2.376	1.938	31	31D
2.438	2.000	32	32D
2.563	2.125	34	34D
2.688	2.250	36	36D
2.813	2.375	38	38D
2.938	2.500	40	40D

Supercedes NAS464P5 Series and NAS1105 Series

NAS6206 Close Tolerance Bolt
(.3750-24 Thread)



"D" Following Dash # for Drilled Shank
"H" Following Dash # for Drilled Head

Description		NAS6206	NAS6206
Length	Grip±.010	Undrilled	Drilled
.642	.188	3	3D
.704	.250	4	4D
.766	.312	5	5D
.829	.375	6	6D
.892	.438	7	7D
.954	.500	8	8D
1.016	.562	9	9D
1.079	.625	10	10D
1.142	.688	11	11D
1.204	.750	12	12D
1.266	.812	13	13D
1.329	.875	14	14D
1.392	.938	15	15D
1.454	1.000	16	16D
1.516	1.062	17	17D
1.579	1.125	18	18D
1.642	1.188	19	19D
1.704	1.250	20	20D
1.766	1.312	21	21D
1.829	1.375	22	22D
1.892	1.438	23	23D
1.954	1.500	24	24D
2.016	1.562	25	25D
2.079	1.625	26	26D
2.142	1.688	27	27D
2.204	1.750	28	28D
2.266	1.812	29	29D
2.329	1.875	30	30D
2.392	1.938	31	31D
2.454	2.000	32	32D
2.579	2.125	34	34D
2.704	2.250	36	36D
2.829	2.375	38	38D
2.954	2.500	40	40D

Supercedes NAS464P6 Series and NAS1106 Series

NAS6603 Close Tolerance Bolt
(.1900-32 Thread)



"D" Following Base # for Drilled Shank
"H" Following Base # for Drilled Head

Description		NAS6603	NAS6603
Length	Grip ± .010	Undrilled	Drilled
.407	.062	1	D1
.470	.125	2	D2
.533	.188	3	D3
.595	.250	4	D4
.657	.312	5	D5
.720	.375	6	D6
.783	.438	7	D7
.845	.500	8	D8
.907	.562	9	D9
.970	.625	10	D10
1.033	.688	11	D11
1.095	.750	12	D12
1.157	.812	13	D13
1.220	.875	14	D14
1.283	.938	15	D15
1.345	1.000	16	D16
1.407	1.062	17	D17
1470	1.125	18	D18
1.533	1.188	19	D19
1.595	1.250	20	D20
1.657	1.312	21	D21
1.720	1.375	22	D22
1.783	1.438	23	D23
1.845	1.500	24	D24
1.907	1.562	25	D25
1.970	1.625	26	D26
2.033	1.688	27	D27
2.095	1.750	28	D28
2.157	1.812	29	D29
2.220	1.875	30	D30
2.283	1.938	31	D31
2.345	2.000	32	D32
2.470	2.125	34	D34
2.595	2.250	36	D36
2.720	2.375	38	D38

Supercedes NAS1303 Series

NAS6604 Close Tolerance Bolt
(.2500-28 Thread)



"D" Following Base # for Drilled Shank
"H" Following Base # for Drilled Head

Description		NAS6604	NAS6604
Length	Grip ±.010	Undrilled	Drilled
.487	.062	1	D1
.550	.125	2	D2
.613	.188	3	D3
.675	.250	4	D4
.737	.312	5	D5
.800	.375	6	D6
.863	.438	7	D7
.925	.500	8	D8
.987	.562	9	D9
1.050	.625	10	D10
1.113	.688	11	D11
1.175	.750	12	D12
1.237	.812	13	D13
1.300	.875	14	D14
1.364	.938	15	D15
1.425	1.000	16	D16
1.487	1.062	17	D17
1.550	1.125	18	D18
1.613	1.188	19	D19
1.675	1.250	20	D20
1.737	1.312	21	D21
1.800	1.375	22	D22
1.863	1.438	23	D23
1.925	1.500	24	D24
1.987	1.562	25	D25
2.050	1.625	26	D26
2.113	1.688	27	D27
2.175	1.750	28	D28
2.237	1.812	29	D29
2.300	1.875	30	D30
2.363	1.938	31	D31
2.425	2.000	32	D32
2.550	2.125	34	D34
2.675	2.250	36	D36
2.800	2.375	38	D38

Supercedes NAS1304 Series

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS6605 Close Tolerance Bolt
(.3125-24 Thread)



"D" Following Base # for Drilled Shank
"H" Following Base # for Drilled Head

Description		NAS6605	NAS6605
Length	Grip ± .010	Undrilled	Drilled
.594	.125	2	D2
.657	.188	3	D3
.719	.250	4	D4
.781	.312	5	D5
.844	.375	6	D6
.907	.438	7	D7
.969	.500	8	D8
1.031	.562	9	D9
1.094	.625	10	D10
1.157	.688	11	D11
1.219	.750	12	D12
1.281	.812	13	D13
1.344	.875	14	D14
1.407	.938	15	D15
1.469	1.000	16	D16
1.531	1.062	17	D17
1.594	1.125	18	D18
1.657	1.188	19	D19
1.719	1.250	20	D20
1.781	1.312	21	D21
1.844	1.375	22	D22
1.907	1.438	23	D23
1.969	1.500	24	D24
2.031	1.562	25	D25
2.094	1.625	26	D26
2.157	1.688	27	D27
2.219	1.750	28	D28
2.281	1.812	29	D29
2.344	1.875	30	D30
2.407	1.938	31	D31
2.469	2.000	32	D32
2.594	2.125	34	D34
2.719	2.250	36	D36
2.844	2.375	38	D38
2.969	2.500	40	D40

Supercedes NAS1305 Series

NAS6606 Close Tolerance Bolt
(.3750-24 Thread)



"D" Following Base # for Drilled Shank
"H" Following Base # for Drilled Head

Description		NAS6606	NAS6606
Length	Grip ± .010	Undrilled	Drilled
.890	.312	5	D5
.954	.375	6	D6
1.016	.438	7	D7
1.078	.500	8	D8
1.140	.562	9	D9
1.203	.625	10	D10
1.266	.688	11	D11
1.328	.750	12	D12
1.390	.812	13	D13
1.453	.875	14	D14
1.516	.938	15	D15
1.578	1.000	16	D16
1.640	1.062	17	D17
1.703	1.125	18	D18
1.766	1.188	19	D19
1.828	1.250	20	D20
1.890	1.312	21	D21
1.953	1.375	22	D22
2.016	1.438	23	D23
2.078	1.500	24	D24
2.140	1.562	25	D25
2.203	1.625	26	D26
2.266	1.688	27	D27
2.328	1.750	28	D28
2.390	1.812	29	D29
2.453	1.875	30	D30
2.516	1.938	31	D31
2.578	2.000	32	D32
2.703	2.125	34	D34
2.828	2.250	36	D36
2.953	2.375	38	D38
3.016	2.438	39	D39

Supercedes NAS1306 Series

NAS1578 - FLAT PAN HEAD BOLT

"A" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating



Offset Cruciform Recess per MS14191

Grip ± .010	Length	Basic Part Number (10-32 Dia.)	
		NAS1578	NAS1578
.125	.487	A3T2	C3T2
.187	.549	A3T3	C3T3
.250	.613	A3T4	C3T4
.312	.675	A3T5	C3T5
.375	.738	A3T6	C3T6
.438	.801	A3T7	C3T7
.500	.863	A3T8	C3T8
.562	.925	A3T9	C3T9
.625	.988	A3T10	C3T10
.688	1.051	A3T11	C3T11
.750	1.113	A3T12	C3T12

NAS1580 - 100° FLUSH HEAD BOLT

"A" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating



Offset Cruciform Recess per MS14191

Grip ± .010	Length	Basic Part Number (10-32 Dia.)		
		NAS1580	NAS1580	NAS1580
.125	.487	A3T2	C3T2	C3T2P
.187	.549	A3T3	C3T3	C3T3P
.250	.613	A3T4	C3T4	C3T4P
.312	.675	A3T5	C3T5	C3T5P
.375	.738	A3T6	C3T6	C3T6P
.438	.801	A3T7	C3T7	---
.500	.863	A3T8	C3T8	---
.562	.925	A3T9	C3T9	---
.625	.988	A3T10	C3T10	---

NAS1581 - 100° FLUSH REDUCED HEAD BOLT

"F" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating



Offset Cruciform Recess per MS14191

Grip ± .010	Length	Basic Part Number (10-32 Dia.)		
		NAS1581	NAS1581	NAS1581
.125	.487	F3T2	C3T2	C3T2P
.187	.549	F3T3	C3T3	C3T3P
.250	.613	F3T4	C3T4	C3T4P
.312	.675	F3T5	C3T5	C3T5P
.375	.738	F3T6	C3T6	C3T6P
.438	.801	F3T7	C3T7	---
.500	.863	F3T8	C3T8	---
.562	.925	F3T9	C3T9	---
.625	.988	F3T10	C3T10	---
.688	1.051	F3T11	C3T11	---
.750	1.113	F3T12	C3T12	---
.875	1.238	F3T14	C3T14	---

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20004 thru MS20006 Internal Wrenching Bolt

Replaces NAS144, NAS145, NAS146

*** See note at bottom of this page*



Dash #	Grip ±.010	Basic Part #, Thread & Total Length		
		MS20004	MS20005	MS20006
		1/4-28	5/16-24	3/8-24
4	.250	.750	---	---
6	.375	.875	.938	1.062
8	.500	1.000	1.062	1.188
10	.625	1.125	1.188	1.312
12	.750	1.250	1.312	1.438
14	.875	1.375	1.438	1.562
16	1.000	1.500	1.562	1.688
18	1.125	1.625	1.688	1.812
20	1.250	1.750	1.812	1.938
22	1.375	1.875	1.938	2.062
24	1.500	2.000	2.062	2.188
26	1.625	2.125	2.188	2.312
28	1.750	2.250	2.312	2.438
30	1.875	2.375	2.438	2.562
32	2.000	2.500	2.562	2.688

MS21250 External Wrenching Bolt, Flanged

12 Point. 180 KSI

*** See note at bottom of this page*



MS21250 Second Dash #	Grip ± .010	Thread, First Dash # & Total Length			
		.1900-32	.2500-28	.3125-24	.3750-24
		-03	-04	-05	-06
006	.375	.815	.887	.974	1.020
008	.500	.940	1.012	1.099	1.145
010	.625	1.065	1.137	1.224	1.270
012	.750	1.190	1.262	1.349	1.395
014	.875	1.315	1.387	1.474	1.520
016	1.000	1.440	1.512	1.599	1.645
018	1.125	1.565	1.637	1.724	1.770
020	1.250	1.690	1.762	1.849	1.895
022	1.375	1.815	1.887	1.974	2.020
024	1.500	1.940	2.012	2.099	2.145

NAS624 thru NAS626 External Wrenching

12 Point Bolt, 180,000 PSI

*** See note at bottom of this page*



Dash #	Grip	Basic Part #, Thread & Total Length		
		NAS624	NAS626	NAS626
		.2500-28	.3750-24	.3750-24
6	.375	.860	.947	.994
8	.500	.965	1.072	1.119
10	.625	1.110	1.197	1.244
12	.750	1.235	1.322	1.369
14	.875	1.360	1.447	1.494
16	1.000	1.485	1.572	1.619
18	1.125	1.610	1.697	1.744
20	1.250	1.735	1.822	1.869
22	1.375	1.860	1.947	1.994
24	1.500	1.985	2.072	2.119

**** Suggested Nuts for the Bolts on this page - NAS1804, NAS1805, 42FLW & 47FLW (see pages 115 & 116)**

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS9033

12 Point Machine Bolt
Heat Resistant Steel



MS9033 (.1900 - 32 Dia.)		
MS9033	Length	Grip
-05	.438	---
-06	.500	---
-07	.562	---
-08	.625	---
-09	.688	---
-10	.750	.125
-11	.812	.188
-12	.875	.250

MS9432

Tee Head Bolt
AMS 5735,
Chamfered



MS9432 (.1900- 32 Dia.)		
MS9432	Length	Grip
-04	.375	.114 - .134
-05	.438	.114 - .134
-06	.500	.114 - .134
-07	.562	.114 - .134
-08	.625	.114 - .134
-09	.688	.114 - .134
-10	.750	.114 - .134

MS9489

Machine Bolt
Hexagon Head



MS9489 (.1900 - 32 Dia.)		
MS9489	Length	Grip
-04	.375	.072 - .092
-05	.438	.072 - .092
-06	.500	.072 - .092
-07	.562	.072 - .092
-08	.625	.072 - .092
-09	.688	.072 - .092
-10	.750	.072 - .020
-11	.812	.122 - .182
-12	.875	.185 - .245
-13	.938	.248 - .308
-14	1.000	.310 - .370
-15	1.062	.372 - .432

MS9556

Double Hexagon
Machine Bolt,
Extended Washer Head



MS9556 (.1900 - 32 Dia.)		
MS9556	Length	Grip
-03	.312	.072-.092
-04	.375	.072-.092
-05	.438	.072-.092
-06	.500	.072-.092
-07	.562	.072-.092
-08	.625	.072-.092
-09	.688	.072-.092
-10	.750	.072-.120
-11	.812	.122-.182
-12	.875	.185-.245
-13	.938	.248-.308
-14	1.000	.310-.370

MS9565

Double Hexagon
Machine Bolt
Drilled Head
Extended Washer Head



MS9565 (.1900-32 Dia.)		
MS9565	Length	Grip
-03	.312	.072-.092
-04	.375	.072-.092
-05	.438	.072-.092
-06	.500	.072-.092
-07	.562	.072-.092
-08	.625	.072-.092
-09	.688	.072-.092
-10	.750	.072-.120

MS9696

Double Hexagon
Machine Bolt, Corrosion
and Heat Resistant Steel
Extended Washer Head



MS9696 (.1900- 32 Dia.)		
MS9696	Length	Grip
-04	.375	.072-.092
-05	.438	.072-.092
-06	.500	.072-.092
-07	.562	.072-.092
-08	.625	.072-.092
-09	.688	.072-.092
-10	.750	.072-.120
-11	.812	.122-.182

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20033
MS20034



Hexagon
Machine Bolt
1200° F

Dash #	Grip	Thread, Basic Part # & Length	
		.1900-32	.2500-28
		MS20033	MS20034
1	1/8	35/64	41/64
2	1/4	43/64	49/64
3	3/8	51/64	57/64
4	1/2	59/64	1-1/64

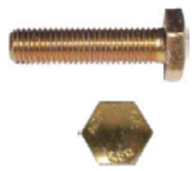
MS20074



Drilled
Head Bolt
Coarse Thread

Dimensions		10-24 Thread	1/4-20 Thread
Length	Grip	MS20074	MS20074
.344	.062	-03-02	---
.469	.062	-03-03	-04-03
.594	.062	-03-04	-04-04
.656	.125	-03-05	-04-05
.781	.250	-03-06	-04-06
.906	.375	-03-07	-04-07
1.031	.500	-03-10	-04-10
1.156	.625	-03-11	-04-11
1.281	.750	-03-12	-04-12
1.406	.875	-03-13	-04-13
2.156	1.625	-03-21	-04-21

NAS428



Crowned
Hexagon Head Bolt,
Adjusting
"K" Indicates Slotted Shank
"KH" Indicates Slotted Shank
and Drilled Head

Length	.1900-32	.2500-28
	NAS428	NAS428
.500	3A4	4A4
.625	3A5	4A5
.750	3A6	4A6
.875	3A7	4A7
1.000	3A10	4A10
1.125	3A11	4A11
1.250	3A12	4A12
1.375	3A13	4A13
1.500	3A14	4A14
1.750	3A16	4A16

MS20073



Drilled
Head Bolt
Fine Thread

Dimensions		10-32 Thread	1/4-28 Thread
Length	Grip	MS20073	MS20073
.469	.062	-03-03	-04-03
.594	.062	-03-04	-04-04
.656	.125	-03-05	-04-05
.781	.250	-03-06	-04-06
.906	.375	-03-07	-04-07
1.031	.500	-03-10	-04-10
1.156	.625	-03-11	-04-11
1.281	.750	-03-12	-04-12

MS20074



Drilled
Head Bolt
Coarse Thread

Dimensions		5/16-18 Thread
Length	Grip	MS20074
.609	.062	05-04
.672	.125	05-05
.797	.250	05-06
.922	.375	05-07
1.047	.500	05-10
1.172	.625	05-11
1.297	.750	05-12
1.422	.875	05-13
1.547	1.000	05-14

NAS333, NAS334



100° Close Tolerance Bolt
CPA indicates Plated Phillips Recess
Add -5 after last Dash # to indicate
Length & Grip
.062 Longer than Designated by DASH #

DASH #	.1900-32		.2500-28	
	NAS333		NAS334	
	Length	Grip	Length	Grip
4	.531	.125	---	---
5	.656	.250	.657	.188
6	.781	.375	.781	.312
7	.906	.500	.907	.438
10	1.031	.625	1.031	.562
11	1.156	.750	1.157	.688
12	1.281	.875	1.281	.812
13	1.406	1.000	1.407	.938
14	1.531	1.125	1.531	1.062

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS560HK



100° Flush Head
Machine Screw
Non-Magnetic, High Temp

Second Dash #	Grip	Thread, Basic Part # & Length	
		.1640-32	.1900-32
		NAS560HK2	NAS560HK3
00	---	.348	.400
0	---	.410	.463
1	---	.472	.526
2	.125	.535	.588
3	.188	.598	.651
4	.250	.660	.713
5	.312	.722	.775

NAS4403
NAS4404



100° Close Tolerance Bolt,
Tri-Slot Recess

Dash #	Grip	.1900-32	.2500-28
		NAS4403	NAS4404
2	.125	.448	---
3	.188	.511	.558
4	.250	.573	.620
5	.312	.635	.682
6	.375	.698	.745
7	.438	.761	.808
8	.500	.823	.870
9	.562	.885	.932
10	.625	.948	.995
11	.688	1.011	1.058
12	.750	1.073	1.120
14	.875	1.198	1.245
15	.938	1.261	1.305

NAS1003
NAS1004



Hexagon Head Machine Bolt
A 286 Corrosion Resistant Steel
"A" After Dash # Indicates UNDRILLED

Dash #	Grip	.1900-32	.2500-28
		NAS1003	NAS1004
1	.062	.543	.606
2	.125	.606	.669
3	.188	.669	.732
4	.250	.731	.794
5	.312	.793	.856
7	.438	.919	.982
8	.500	.981	1.044
9	.562	1.043	1.106
10	.625	1.106	1.169

NAS1202
NAS1203
NAS1204



100° Close Tolerance Bolt

Dash #	Grip	Thread, Basic Part # & Length		
		.1640-32	.1900-32	.2500-28
		NAS1202	NAS1203	NAS1204
1	.062	.338	.338	.378
2	.125	.401	.401	.441
3	.188	.464	.464	.504
4	.250	.526	.526	.566
5	.312	.588	.588	.628
6	.375	.651	.651	.691
7	.438	.714	.714	.754
8	.500	.776	.776	.816
9	.562	.838	.838	.878
10	.625	.901	.901	.941
11	.688	.964	.964	1.004
12	.750	1.026	1.026	1.066
13	.812	1.088	1.088	1.128
14	.875	1.151	1.151	1.191
15	.938	1.214	1.214	1.254
16	1.000	1.276	1.276	1.316
17	1.062	1.338	1.338	1.378
21	1.312	1.588	1.588	1.628
22	1.375	1.651	1.651	1.691

NAS1297



Shoulder Bolt, Hex Head
.1900-32 Diameter

Second Dash #	Grip	Basic Part # & Length
		NAS1297-3
3	.198	.560
4	.260	.622
8	.510	.872

NAS1993
NAS1994



100° Reduced Head Bolt
Torq Set ® Recess (T)
Add "C" for Corrosion Resistant
Add "P" for Aluminum Coating

Dash #	Grip	Thread, Basic Part # & Length	
		.1900-32	.2500-28
		NAS1993	NAS1994
2T C2T	.125	.463	.550
3T C3T	.188	.526	.613
4T C4T C4PT	.250	.588	.675
5T	.312	.650	.737

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS4503U, NAS4504U



100° Close Tolerance Bolt
Tri-Wing® Recess
A286 CRES Unplated

Dash #	Grip	.1900-32 NAS4503	.2500-28 NAS4504
U2	.125	.448	---
U3	.188	.511	.558
U4	.250	.573	.620
U5	.312	.635	.682
U6	.375	.698	.745

NAS4703, NAS4704



100° Close Tolerance Bolt
Tri-Wing® Recess
Reduced Head, Alloy Steel

Dash #	Grip	Thread, Basic Part # & Length .1900-32 NAS4703	.2500-28 NAS4704
1	.062	.385	--
2	.125	.448	.495
3	.188	.511	.558
4	.250	.573	.620
5	.312	.635	.682
6	.375	.698	.745
7	.438	.761	.808
8	.500	.823	.870

NAS5002, NAS5003



Pan Head Close Tolerance Bolt
Alloy Steel, Short Thread
Tri-Wing® Recess

Dash #	Grip	Thread, Basic Part # & Length .1640-32 NAS5002	.1900-32 NAS5003
2	.125	.448	.448
3	.188	.511	.511
4	.250	.573	.573
5	.312	.635	.635
6	.375	.686	.686

NAS5903



Tri-Wing®
Hex Head Screw
Alloy Steel, Full Thread
160 KSI Ultimate Tensile

NAS5903	Length	NAS5903	Length
6	.36	14	.88
7	.44	18	1.12
8	.50	22	1.38
9	.56	24	1.50
10	.62	26	1.62
12	.78	28	1.75

NAS6303U



Hex Head, Close Tolerance Bolt,
A286 Corrosion Resistant Steel
.1900-32 Thread
"U" Indicates Unplated

NAS6303	Grip	Length
U1	.062	.385
U2	.125	.448
U4	.250	.573
U5	.312	.635
U6	.375	.698
U7	.438	.761
U8	.500	.823
U9	.562	.885

NAS6304



Close Tolerance Bolt,
A286 Corrosion Resistant Steel
.2500-28 Thread
"U" Indicates Unplated

NAS6304	Grip	Length
U2	.125	.495
U3	.188	.588
U4	.250	.620
U5	.312	.682
U6	.375	.745
U7	.438	.808
U8	.500	.870
U9	.562	.932

NAS6703



Close Tolerance Hex Head Bolt
A286 CRES Corrosion Resistant Steel
Long Threads "U" Indicates Unplated
160 KSI Ultimate Tensile, 95 Ultimate Shear

.1900-32 NAS6703	Grip	Length
U2	.125	.470
U3	.188	.533
U4	.250	.595
U5	.312	.657
U6	.375	.720
U7	.438	.783
U8	.500	.845
U9	.562	.907

NAS6406A102
NAS6408A17D
NAS6408A84



Hex Head Close Tolerance Bolt
160 - 180 KSI Ultimate Tensile
95 KSI Minimum Ultimate Shear
"D" Indicates Aluminum
6AL -4V Titanium Alloy, Aluminum Coated

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

NAS7403



100° Close Tolerance Bolt
10-32 Thread, Phillips Recess,
Alloy Steel, 160-180 KSI Ultimate
Tensile, 95 KSI Min. Ultimate Shear

NAS7403	Grip	Length
2	.125	.448
3	.188	.511
4	.250	.573
5	.312	.635
6	.375	.698
8	.500	.823
10	.625	.948
11	.688	1.011
12	.750	1.073
14	.875	1.198
15	.938	1.261
16	1.00	1.323
17	1.062	1.385
18	1.125	1.448
20	1.250	1.573
22	1.375	1.698
23	1.438	1.761
31	1.938	2.261

NAS7503



100° Close Tolerance Bolt
10-32 Thread, Cruciform Recess,
A286 CRES, Short Thread
160 KSI Min. Ultimate Tensile,
95 KSI Min. Ultimate Shear

NAS7503	Grip	Length
3	.188	.511
4	.250	.573
5	.312	.635
6	.375	.698
8	.500	.823
12	.750	1.073

NAS7703



Pan Head Bolt, Close Tolerance
.1900-32 Diameter, Short Thread,
Cruciform Recess, 160-180 KSI Min.
Ultimate Tensile, 95 KSI Min. Ultimate Shear

NAS7703	Grip	Length
1	.062	.385
2	.125	.448
3	.188	.511
4	.250	.573
5	.312	.635
6	.375	.698
7	.438	.761
8	.500	.823

NAS8602, NAS8603



100° Close Tolerance Bolt
Reduced Head, Phillips Recess
Alloy Steel, Short Thread,
160 KSI Ultimate Tensile, 95 KSI , Ultimate Shear

Dash #	Grip	Thread, Basic Part # & Length .1640-32 NAS8602	.1900-32 NAS8603
1	.062	.385	.385
2	.125	.448	.448
3	.188	.511	.511
4	.250	.573	.573
5	.312	.635	.635
6	.375	.698	.698
7	.438	.761	.761
8	.500	.823	.823
9	.562	.885	.885
10	.625	.948	.948
12	.750	1.073	1.073

NAS8702, NAS8703



100° Close Tolerance Bolt
Reduced Head, Phillips Recess
A-286 CRES, Short Thread, "U" Indicates Unplated
160 KSI Ultimate Tensile, 95 KSI Ultimate Shear

Dash #	Grip	Thread, Basic Part # & Length .1640-32 NAS8702	.1900-32 NAS8703
2	.125	.448	.448
3	.188	.511	.511
4	.250	.573	.573
5	.312	.635	.635
6	.375	.698	.698
7	.438	.761	.761
8	.500	.823	.823
9	.562	.885	.885
11	.688	1.011	1.011
12	.750	1.073	1.073

NAS8803A



100° Close Tolerance Bolt
6 Al - 4V Titanium Alloy
Phillips Recess , Short Thread,
Aluminum Coated

NAS8803	Grip	Length
A2	.125	.448
A3	.188	.511
A4	.250	.573
A5	.312	.635
A6	.375	.698
A7	.438	.761
A8	.500	.823
A9	.562	.885
A10	.625	.948
A11	.688	1.011
A12	.750	1.073
A13	.812	1.135
A14	.875	1.198

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

NAS514P



Machine Screw, 100°
Flat Head, Fully Threaded,
Alloy Steel

Diameter	Length	NAS514P
.1120-40	.250	440-4P
	.312	440-5P
	.375	440-6P
	.500	440-8P
	.625	440-10P
	.750	440-12P
	.875	440-14P
	1.00	440-16P
.1380-32	.250	632-4P
	.312	632-5P
	.375	632-6P
	.438	632-7P
	.500	632-8P
	.625	632-10P
	.750	632-12P
	.875	632-14P
	1.00	632-16P
.1640-32	.250	832-4P
	.312	832-5P
	.375	832-6P
	.438	832-7P
	.500	832-8P
	.625	832-10P
	.750	832-12P
	.875	832-14P
	1.00	832-16P
.1900-32	.375	1032-6P
	.438	1032-7P
	.500	1032-8P
	.625	1032-10P
	.688	1032-11P
	.750	1032-12P
	.875	1032-14P
	1.00	1032-16P

NAS387



100° Oval Head
Machine Screw
Recessed Head,
Fully Threaded

Diameter	Length	NAS387
6-32	1/2	632-8P
	5/8	632-10P
	3/4	632-12P
	7/8	632-14P
	1	632-16P
8-32	1/2	832-8P
	5/8	832-10P
	3/4	832-12P
	7/8	832-14P
	1	832-16P
10-32	1/2	1032-8P
	5/8	1032-10P
	3/4	1032-12P
	7/8	1032-14P
	1	1032-16P
	1-1/8	1032-18P
	1-1/2	1032-24P

NAS600, NAS601 NAS602, NAS603 NAS604



Pan Head, Cruciform Recess
Machine Screw
Fully Threaded, Alloy Steel

Thread	Length	NAS600
4-40	.250	4P
	.312	5P
	.375	6P
	.500	8P
	.625	10P
	.750	12P
Thread	**Length**	**NAS601**
6-32	.250	4P
	.375	6P
	.438	7P
	.500	8P
	.625	10P
	.750	12P
	.875	14P
	1.00	16P
Thread	**Length**	**NAS602**
8-32	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.75	12P
	.875	14P
	1.000	16P
	1.250	20P
	1.375	22P
	1.500	24P
Thread	**Length**	**NAS603**
10-32	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
Thread	**Length**	**NAS604**
1/4-28	3/8	6P
	1/2	8P
	5/8	10P
	3/4	12P
	7/8	14P
	1	16P

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS24693 (AN507)





100⁰ Flat Head
Machine Screw ,
Non-Structural

Thread Size	Length	CARBON STEEL		CORROSION RESISTANT
		MS24693	AN507	MS24693
4-40	3/16	S1	440R3	C1
	1/4	S2	440R4	C2
	5/16	S3	440R5	C3
	3/8	S4	440R6	C4
	7/16	S5	440R7	C5
	1/2	S6	440R8	C6
	5/8	S7	440R10	C7
	3/4	S8	440R12	C8
	7/8	S9	440R14	C9
	1	S10	440R16	C10
6-32	3/16	S23	632R3	C23
	1/4	S24	632R4	C24
	5/16	S25	632R5	C25
	3/8	S26	632R6	C26
	7/16	S27	632R7	C27
	1/2	S28	632R8	C28
	5/8	S29	632R10	C29
	3/4	S30	632R12	C30
	7/8	S31	632R14	C31
	1	S32	632R16	C32
	1-1/8	S33	632R18	C33
	1-1/4	S34	632R20	C34
	1-1/2	S36	632R24	---
8-32	1/4	S46	832R4	C46
	5/16	S47	832R5	C47
	3/8	S48	832R6	C48
	7/16	S49	832R7	C49
	1/2	S50	832R8	C50
	5/8	S51	832R10	C51
	3/4	S52	832R12	C52
	7/8	S53	832R14	C53
	1	S54	832R16	C54
	1-1/8	S55	832R18	C55
	1-1/4	S56	832R20	C56
	1-1/2	S58	832R24	C58
10-32	1/4	S268	1032R4	C268
	5/16	S269	1032R5	C269
	3/8	S270	1032R6	C270
	7/16	S271	1032R7	C271
	1/2	S272	1032R8	C272
	9/16	---	1032R9	---
	5/8	S273	1032R10	C273
	3/4	S274	1032R12	C274
	7/8	S275	1032R14	C275
	1	S276	1032R16	C276
	1 - 1/8	S277	1032R18	C277
	1 - 1/4	S278	1032R20	C278
	1 - 1/2	S280	1032R24	C280
	1 - 5/8	S281	1032R26	C281
	1 - 3/4	S282	1032R28	C282
	2	S284	1032R32	C284
	2 - 1/2	S286	1032R40	C286

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS24693 (AN507)



100° Flat Head
Machine Screw, Non-Structural

Thread Size	Length	CARBON STEEL	CORROSION RESISTANT
		MS24693	MS24693
1/4-28	3/8	S292	C292
	7/16	S293	C293
	1/2	S294	C294
	5/8	S295	C295
	3/4	S296	C296
	7/8	S297	--
	1	S298	--
	1 - 1/4	S300	--

NON-STRUCTURAL SCREW KIT #1

100 EA.	AN526-632R4	THRU	-632R12
100 EA.	AN526-832R4	THRU	-832R12
100 EA.	AN526-1032R6	THRU	-1032R16
100 EA.	MS24693S2	THRU	MS24693S8
100 EA.	MS24693S24	THRU	MS24693S30
100 EA.	MS24693S46	THRU	MS24693S54
100 EA.	MS24693S270	THRU	MS24693S276
100 EA.	MS35206-213	THRU	MS35206-219
100 EA.	MS35206-226	THRU	MS35206-232
100 EA.	MS35206-241	THRU	MS35206-249
100 EA.	MS35207-261	THRU	MS35207-267

NON-STRUCTURAL SCREW KIT #2

100 EA.	MS24693S24	THRU	MS24693S30
100 EA.	MS24693S48	THRU	MS24693S52
100 EA.	MS24693S270	THRU	MS24693S274
100 EA.	MS24693C24	THRU	MS24693C30
100 EA.	MS24693C48	THRU	MS24693C52
100 EA.	MS24693C270	THRU	MS24693C274

NON-STRUCTURAL SCREW KIT #3

100 EA.	AN526-632R6	THRU	-632R12
100 EA.	AN526-832R6	THRU	-832R12
100 EA.	AN526-1032R6	THRU	-1032R12
100 EA.	AN526C632R6	THRU	C632R12
100 EA.	AN526C832R6	THRU	C832R12
100 EA.	AN526C1032R6	THRU	C1032R12

STAINLESS SCREW KIT #1

100 EA.	MS24693C4	THRU	MS24693C8
100 EA.	MS24693C24	THRU	MS24693C30
100 EA.	MS24693C46	THRU	MS24693C52
100 EA.	MS24693C270	THRU	MS24693C276
100 EA.	MS24694C3	THRU	MS24694C7
100 EA.	MS24694C48	THRU	MS24694C52

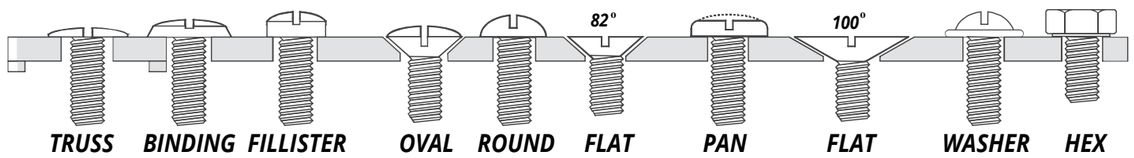
STAINLESS SCREW KIT #2

100 EA.	AN526C632R4	THRU	C632R12
100 EA.	AN526C832R4	THRU	C832R16
100 EA.	AN526C1032R6	THRU	C1032R16
100 EA.	MS51957-30	AND	MS51957-45
100 EA.	MS51958-63	AND	MS51958-64

STAINLESS SCREW KIT #3

100 EA.	AN526C632R6	THRU	C632R12
100 EA.	AN526C832R6	THRU	C832R12
100 EA.	AN526C1032R6	THRU	C1032R12
100 EA.	MS24693C24	AND	MS24693C30
100 EA.	MS24693C46	THRU	MS24693C54
100 EA.	MS24693C270	THRU	MS24693C276
100 EA.	MS24694C5	THRU	MS24694C9
100 EA.	MS24694C48	THRU	MS24694C54

FASTENER HEAD STYLES



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS24694 (AN509)



100° Flat Head Screw
Structural Machine Screw

Thread Size	Length	Grip	CARBON STEEL		CORROSION RESISTANT
			MS24694	AN509	MS24694
8-32	9/32	3/32	S1	8R4	C1
	11/32	3/32	S2	8R5	C2
	13/32	3/32	S3	8R6	C3
	15/32	3/32	S4	8R7	C4
	17/32	3/32	S5	8R8	C5
	19/32	5/32	S6	8R9	C6
	21/32	7/32	S7	8R10	C7
	23/32	9/32	S8	8R11	C8
	25/32	11/32	S9	8R12	C9
	27/32	13/32	S10	8R13	C10
	29/32	15/32	S11	8R14	C11
	31/32	17/32	S12	8R15	C12
	1 - 1/32	19/32	S13	8R16	C13
	1 - 3/32	21/32	S14	8R17	C14
	1 - 5/32	23/32	S15	8R18	C15
	1 - 7/32	25/32	S16	8R19	C16
	1 - 9/32	27/32	S17	8R20	C17
	1 - 11/32	29/32	S18	8R21	C18
	1 - 13/32	31/32	S19	8R22	C19
	1 - 15/32	1 - 1/32	S20	8R23	C20
10-32	9/32	7/64	S46	10R4	C46
	11/32	7/64	S47	10R5	C47
	13/32	7/64	S48	10R6	C48
	15/32	7/64	S49	10R7	C49
	17/32	7/64	S50	10R8	C50
	19/32	7/64	S51	10R9	C51
	21/32	3/16	S52	10R10	C52
	23/32	1/4	S53	10R11	C53
	25/32	5/16	S54	10R12	C54
	27/32	3/8	S55	10R13	C55
	29/32	7/16	S56	10R14	C56
	31/32	1/2	S57	10R15	C57
	1 - 1/32	9/16	S58	10R16	C58
	1 - 3/32	5/8	S59	10R17	C59
	1 - 5/32	11/16	S60	10R18	C60
	1 - 7/32	3/4	S61	10R19	C61
	1 - 9/32	13/16	S62	10R20	C62
	1 - 11/32	7/8	S63	10R21	C63
	1 - 13/32	15/16	S64	10R22	C64
	1 - 15/32	1	S65	10R23	C65
	1 - 17/32	1 - 1/16	S66	10R24	C66
	1 - 19/32	1 - 1/8	S67	10R25	C67
	1 - 21/32	1 - 3/16	S68	10R26	C68
	1 - 23/32	1 - 1/4	S69	10R27	C69
	1 - 25/32	1 - 5/16	S70	10R28	C70
	1 - 27/32	1 - 3/8	S71	10R29	---
	1 - 29/32	1 - 7/16	S72	10R30	---
	2 - 1/32	1 - 9/16	S74	10R32	---
	2 - 5/32	1 - 11/16	S76	10R34	---
	2 - 9/32	1 - 13/16	S78	10R36	---
	2 - 11/32	1 - 7/8	S79	10R37	---
	2 - 13/32	1 - 15/16	S80	10R38	---

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS24694 (AN509)

100° Flat Head Screw, Structural Machine Screw



Thread Size	Length	Grip	CARBON STEEL		CORROSION RESISTANT
			MS24694	AN509	MS24694
1/4-28	17/32	9/64	S95	416R8	C95
	19/32	9/64	S96	416R9	---
	21/32	9/64	S97	416R10	C97
	23/32	3/16	S98	416R11	C98
	25/32	1/4	S99	416R12	C99
	27/32	5/16	S100	416R13	C100
	29/32	3/8	S101	416R14	C101
	31/32	7/16	S102	416R15	C102
	1-1/32	1/2	S103	416R16	---
	1-3/32	9/16	S104	416R17	---
	1-5/32	5/8	S105	416R18	---
	1-7/32	11/16	S106	416R19	---
	1-9/32	3/4	S107	416R20	---
	1 - 11/32	13/16	S108	416R21	---
	1 - 13/32	7/8	S109	416R22	---
	1 - 15/32	15/16	S110	416R23	---
	1 - 17/32	1	S111	416R24	---
	1 - 19/32	1 - 1/16	S112	416R25	---
	1 - 21/32	1 - 1/8	S113	416R26	---
	1 - 23/32	1 - 3/16	S114	416R27	---
	1 - 25/32	1 - 1/4	S115	416R28	---
	1 - 29/32	1 - 3/8	S117	416R30	---
	1 - 31/32	1 - 7/16	S118	416R31	---
	2 - 1/32	1 - 1/2	S119	416R32	---

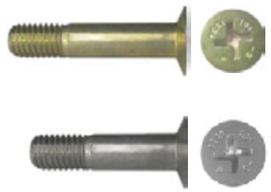
PE21101

130° Flat Head Screw, Torq Set Recess 10-32 Diameter

"S" Indicates Steel Alloy
"D" Indicates Cadmium Plated Steel Alloy
"C" Indicates Corrosion Resistant Steel
"P" Indicates Passivated, Corrosion Resistant Steel

Part Number	Length	Grip	Part Number	Length	Grip
PE21101-3-1SD	13/32	1/15	PE21101-3-4SD	19/32	1/4
PE21101-3-2CP	15/32	1/8	PE21101-3-6CP	23/32	3/8
PE21101-3-2SD	15/32	1/8	PE21101-3-6SD	23/32	3/8
PE21101-3-3CP	17/32	3/16	PE21101-3-8SD	27/32	1/2
PE21101-3-3SD	17/32	3/16	PE21101-3-10SD	29/32	5/8
PE21101-3-4CP	19/32	1/4			

(Image of: PE21101-3-10**SD**)



(Image of: PE21101-3-6**CP**)

STRUCTURAL SCREW KIT #1

100 ea.	MS24694S3	Thru	MS24694S7
100 ea.	MS24694S48	Thru	MS24694S54
100 ea.	NAS517-3-2	Thru	NAS517-3-8
100 ea.	AN525-832R6	Thru	AN525-832R12
100 ea.	AN525-10R6	Thru	AN525-10R12
100 ea.	MS27039-0808	And	MS27039-1-08
100 ea.	MS27039C0808	And	MS27039C1-08

STRUCTURAL SCREW KIT #2

100 ea.	MS24694S3	Thru	MS24694S9
100 ea.	MS24694S48	Thru	MS24694S58
100 ea.	AN525-832R6	Thru	AN525-832R16
100 ea.	AN525-10R6	Thru	AN525-10R16
100 ea.	MS27039-0804	Thru	MS27039-0812
100 ea.	MS27039-1-06	Thru	MS27039-1-16
100 ea.	NAS517-3-2	Thru	NAS517-3-8

STRUCTURAL SCREW KIT #3

100 ea.	MS24694S3	Thru	MS24694S7
100 ea.	MS24694S48	Thru	MS24694S54
100 ea.	MS24694C3	Thru	MS24694C7
100 ea.	MS24694C48	Thru	MS24694C54
100 ea.	NAS517-3-3	Thru	NAS517-3-8
100 ea.	AN525-832R6	Thru	AN525-832R12
100 ea.	AN525-10R6	Thru	AN525-10R12
100 ea.	MS27039-0806	Thru	MS27039-0812
100 ea.	MS27039-1-06	Thru	MS27039-1-12
100 ea.	MS27039C0808	And	MS27039C1-08

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN526

Truss Head Machine Screw Non-Structural



Thread	Length	Carbon Steel	Corrosion Resistant
		AN526	AN526
4-40	3/8	440R6	C440R6
	1/2	440R8	C440R8
6-32	1/4	632R4	C632R4
	5/16	632R5	C632R5
	3/8	632R6	C632R6
	7/16	632R7	C632R7
	1/2	632R8	C632R8
	9/16	632R9	---
	5/8	632R10	C632R10
	3/4	632R12	C632R12
	7/8	632R14	C632R14
	1	632R16	C632R16
	1 - 1/4	632R20	---
8-32	1/4	832R4	C832R4
	5/16	832R5	C832R5
	3/8	832R6	C832R6
	7/16	832R7	C832R7
	1/2	832R8	C832R8
	9/16	832R9	C832R9
	5/8	832R10	C832R10
	3/4	832R12	C832R12
	7/8	832R14	C832R14
	1	832R16	C832R16
	1 - 1/8	832R18	---
	1 - 1/4	832R20	C832R20
	1 - 1/2	832R24	---
10-32	1/4	1032R4	C1032R4
	5/16	1032R5	C1032R5
	3/8	1032R6	C1032R6
	7/16	1032R7	C1032R7
	1/2	1032R8	C1032R8
	9/16	1032R9	C1032R9
	5/8	1032R10	C1032R10
	3/4	1032R12	C1032R12
	7/8	1032R14	C1032R14
	1	1032R16	C1032R16
	1 - 1/4	1032R20	C1032R20
	1 - 3/8	1032R22	---
	1 - 1/2	1032R24	---
	2	1032R32	---

NAS1100



Pan Head Machine Screw Full Thread, Offset Cruciform Recess

Length	.1360-32	.1640-32	.1900-32
	NAS1100-	NAS1100-	NAS1100-
.250	06-4	---	3-4
.375	06-6	---	3-6
.438	06-7	08-7	3-7
.500	06-8	08-8	3-8
.563	---	---	3-9
.625	---	08-10	3-10
.750	---	08-12	3-12
.875	---	---	3-14
1.00	---	---	3-16

MS51957 MS51958

Pan Head Machine Screw, Phillips, Non-Structural, Corrosion Resistant



Thread	Length	MS51957
2-56	3/16	2
	1/4	3
	5/16	4
	3/8	5
	7/16	6
	1/2	7
	5/8	8
	3/4	9
4-40	1/8	11
	3/16	12
	1/4	13
	5/16	14
	3/8	15
	7/16	16
	1/2	17
	9/16	120
	5/8	18
	3/4	19
	7/8	20
	1	21
	1-1/2	23
6-32	3/16	25
	1/4	26
	5/16	27
	3/8	28
	7/16	29
	1/2	30
	5/8	31
	3/4	32
	7/8	33
	1	34
	1 - 1/4	35
	1 - 3/8	125
	1 - 1/2	36
	1 - 3/4	37
	2	38
8-32	1/4	41
	5/16	42
	3/8	43
	7/16	44
	1/2	45
	5/8	46
	3/4	47
	7/8	48
	1	49
	1 - 1/4	50
	1 - 1/2	51
	1 - 3/4	52
10-24	1/2	63
	5/8	64
	3/4	65
Thread	**Length**	**MS51958**
10-32	5/16	60
	3/8	61
	7/16	62
	1/2	63
	5/8	64
	3/4	65
	7/8	66
	1	67
	1 - 1/4	68
	1 - 1/2	69
	1 - 3/4	70

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

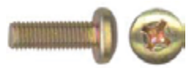
MS35206 (AN515)



Pan Head, Machine Screw, Coarse Thread

Thread	Length	MS35206	AN515
2-56	1/4	203	2R4
	5/16	204	2R5
	3/8	205	2R6
	7/16	206	2R7
	1/2	207	2R8
	5/8	208	2R10
	3/4	209	2R12
4-40	3/16	212	4R3
	1/4	213	4R4
	5/16	214	4R5
	3/8	215	4R6
	7/16	216	4R7
	1/2	217	4R8
	5/8	218	4R10
	3/4	219	4R12
	7/8	220	4R14
	1	221	4R16
	1 - 1/4	222	4R20
	1 - 1/2	223	4R24
6-32	1/8	224	6R2
	3/16	225	6R3
	1/4	226	6R4
	5/16	227	6R5
	3/8	228	6R6
	7/16	229	6R7
	1/2	230	6R8
	5/8	231	6R10
	3/4	232	6R12
	7/8	233	6R14
	1	234	6R16
	1 - 1/8	328	6R18
	1 - 1/4	235	6R20
	1 - 1/2	236	6R24
	1 - 3/4	237	6R28
	2	238	6R32
8-32	3/16	240	8R3
	1/4	241	8R4
	5/16	242	8R5
	3/8	243	8R6
	7/16	244	8R7
	1/2	245	8R8
	5/8	246	8R10
	3/4	247	8R12
	7/8	248	8R14
	1	249	8R16
	1 - 1/4	250	8R20
	1 - 1/2	251	8R24
	1 - 3/4	252	8R28
	2	253	8R32
	2 - 1/4	254	8R36
10-24	5/16	260	1024R5
	3/8	261	1024R6
	7/16	262	1024R7
	1/2	263	1024R8
	5/8	264	1024R10
	3/4	265	1024R12
	1	267	1024R16

MS35207 (AN520)



Pan Head, Machine Screw, Non-Structural, Fine Thread

Thread	Length	MS35207	AN520
6-40	1/4	226	6R4
	3/8	228	6R6
	1/2	230	6R8
	3/4	232	6R12
8-36	5/16	242	8R5
	3/8	243	8R6
	1/2	245	8R8
	5/8	246	8R10
10-32	1/4	259	10R4
	5/16	260	10R5
	3/8	261	10R6
	7/16	262	10R7
	1/2	263	10R8
	5/8	264	10R10
	3/4	265	10R12
	7/8	266	10R14
	1	267	10R16
	1 - 1/4	268	10R20
	1 - 1/2	269	10R24
	1 - 3/4	270	10R28
	2	271	10R32
	2 - 1/4	272	10R36
	2 - 1/2	273	10R40
	3	275	10R48
1/4-28	3/8	277	416R6
	7/16	278	416R7
	1/2	279	416R8
	5/8	280	416R10
	3/4	281	416R12
	7/8	282	416R14
	1	283	416R16

NAS623



Pan Head, Machine Screw, Cross Recess, Short Thread, 160,000 PSI, Alloy Steel

Thread	Length	Grip	NAS623
8-32	.338	.062	2-1
	.401	.125	2-2
	.464	.188	2-3
	.526	.250	2-4
	.588	.312	2-5
	.651	.375	2-6
	.714	.438	2-7
	.776	.500	2-8
	.901	.625	2-10
	1.026	.750	2-12
10-32	.338	.062	3-1
	.401	.125	3-2
	.464	.188	3-3
	.526	.250	3-4
	.588	.312	3-5
	.651	.375	3-6
	.714	.438	3-7
	.776	.500	3-8
	.838	.462	3-9
	.901	.625	3-10
	1.026	.750	3-12
	1.151	.875	3-14
	1.276	1.000	3-16

MS27039



Structural Machine Screw, Crossed-Recessed

Thread	Length	Grip	MS27039
8-32	.281	---	0804
	.344	---	0805
	.406	---	0806
	.469	---	0807
	.531	.094	0808
	.594	.156	0809
	.656	.219	0810
	.719	.281	0811
	.781	.344	0812
	.844	.406	0813
	.906	.469	0814
	.969	.531	0815
	1.031	.594	0816
	1.094	.656	0817
	1.156	.719	0818
	1.219	.781	0819
	1.281	.844	0820
	1.406	.969	0822
10-32	.281	---	1-04
	.344	---	1-05
	.406	---	1-06
	.469	---	1-07
	.531	.062	1-08
	.594	.125	1-09
	.656	.188	1-10
	.719	.250	1-11
	.781	.312	1-12
	.844	.375	1-13
	.906	.438	1-14
	.969	.500	1-15
	1.031	.563	1-16
	1.094	.625	1-17
	1.156	.688	1-18
	1.219	.750	1-19
	1.281	.813	1-20
	1.344	.875	1-21
	1.406	.938	1-22
	1.469	1.000	1-23
	1.531	1.062	1-24
	1.594	1.125	1-25
	1.656	1.188	1-26
	1.719	1.250	1-27
	1.781	1.312	1-28
	1.906	1.438	1-30
	2.031	1.563	1-32
	2.406	1.938	1-38
1/4-28	.344	---	4-05
	.406	---	4-06
	.469	---	4-07
	.531	---	4-08
	.594	.062	4-09
	.656	.125	4-10
	.719	.188	4-11
	.781	.250	4-12
	.844	.312	4-13
	.916	.375	4-14
	.969	.438	4-15
	1.031	.500	4-16

MS27039C



Structural Machine Screw Corrosion Resistant

Thread	Length	Grip	MS27039
8-32	.344	---	C0805
	.406	---	C0806
	.469	---	C0807
	.531	.094	C0808
	.594	.156	C0809
	.656	.219	C0810
	.781	.344	C0812
	.844	.406	C0813
	.906	.469	C0814
	1.031	.594	C0816
10-32	.344	---	C1-05
	.406	---	C1-06
	.469	---	C1-07
	.531	.062	C1-08
	.594	.125	C1-09
	.656	.188	C1-10
	.719	.250	C1-11
	.781	.312	C1-12
	.844	.375	C1-13
	.906	.438	C1-14
	1.031	.563	C1-16
	1.094	.625	C1-17
	1.156	.688	C1-18
	1.281	.813	C1-20
	1.344	.875	C1-21

MS27039DD



Structural Machine Screw, 2024 Aluminum Alloy

Thread	Length	Grip	MS27039
8-32	.406	---	DD0806
	.469	---	DD0807
	.531	.094	DD0808
	.656	.219	DD0810
	.781	.344	DD0812
	.906	.469	DD0814
	1.031	.594	DD0816
10-32	.406	---	DD1-06
	.469	---	DD1-07
	.531	.062	DD1-08
	.594	.125	DD1-09
	.656	.188	DD1-10
	.781	.312	DD1-12
	.906	.438	DD1-14
	1.031	.563	DD1-16
	1.156	.688	DD1-18
	1.281	.813	DD1-20
	1.531	1.062	DD1-24
	1.656	1.188	DD1-26
	1.781	1.312	DD1-28
	1.906	1.438	DD1-30
	2.031	1.563	DD1-32

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN525

Washer Head Screw
Structural, Alloy Steel



Thread	Length	Grip	AN525
8-32	5/16	1/32	**832R5**
	3/8	1/32	**832R6**
	7/16	1/16	**832R7**
	1/2	1/8	**832R8**
	9/16	5/32	**832R9**
	5/8	7/32	**832R10**
	11/16	9/32	**832R11**
	3/4	11/32	**832R12**
	7/8	15/32	**832R14**
	1	19/32	**832R16**
	1 - 1/8	23/32	**832R18**
	1 - 1/4	27/32	**832R20**
	1 - 3/8	31/32	**832R22**
	1 - 1/2	1-3/32	**832R24**
	1 - 5/8	1-7/32	**832R26**
10-32	1/4	1/32	**10R4**
	5/16	1/32	**10R5**
	3/8	1/32	**10R6**
	7/16	1/16	**10R7**
	1/2	1/8	**10R8**
	9/16	5/32	**10R9**
	5/8	7/32	**10R10**
	11/16	9/32	**10R11**
	3/4	11/32	**10R12**
	7/8	15/32	**10R14**
	1	19/32	**10R16**
	1 - 1/8	23/32	**10R18**
	1 - 1/4	27/32	**10R20**
	1 - 3/8	31/32	**10R22**
	1 - 1/2	1-3/32	**10R24**
	1 - 5/8	1-7/32	**10R26**
	1 - 3/4	1-11/32	**10R28**
1/4-28	7/16	1/16	**416R7**
	1/2	1/8	**416R8**
	9/16	5/32	**416R9**
	5/8	7/32	**416R10**
	3/4	11/32	**416R12**
	7/8	15/32	**416R14**
	1	19/32	**416R16**
	1 - 1/4	27/32	**416R20**
	1 - 1/2	1-3/32	**416R24**

AN525

Washer Head
Machine Screw,
Structural, Aluminum



Thread	Length	Grip	AN525
10-32	3/8	1/32	**D10R6**
	7/16	1/16	**D10R7**
	1/2	1/2	**D10R8**
	9/16	5/32	**D10R9**
	5/8	7/32	**D10R10**
	11/16	9/32	**D10R11**
	3/4	11/32	**D10R12**

NAS517

Close Tolerance
100° Flat Head Screw



Thread	Length	Grip	NAS517
.1640-32	.406	---	**2-0**
	.469	---	**2-1**
	.531	.125	**2-2**
	.594	.188	**2-3**
	.656	.250	**2-4**
	.719	.312	**2-5**
	.781	.375	**2-6**
	.844	.438	**2-7**
	.906	.500	**2-8**
	1.031	.625	**2-10**
	1.093	.688	**2-11**
	1.156	.750	**2-12**
	1.219	.812	**2-13**
	1.281	.875	**2-14**
	1.343	.938	**2-15**
	1.406	1.000	**2-16**
.1900-32	.343	---	**3-00**
	.406	---	**3-0**
	.469	---	**3-1**
	.531	.125	**3-2**
	.594	.188	**3-3**
	.656	.250	**3-4**
	.719	.312	**3-5**
	.781	.375	**3-6**
	.844	.438	**3-7**
	.906	.500	**3-8**
	.969	.562	**3-9**
	1.031	.625	**3-10**
	1.093	.688	**3-11**
	1.156	.750	**3-12**
	1.219	.812	**3-13**
	1.281	.875	**3-14**
	1.343	.938	**3-15**
	1.406	1.000	**3-16**
	1.531	1.125	**3-18**
	1.656	1.250	**3-20**
	1.781	1.375	**3-22**
	1.906	1.500	**3-24**
.2500-28	2.031	1.625	**3-26**
	.531	---	**4-0**
	.594	.125	**4-2**
	.656	.188	**4-3**
	.719	.250	**4-4**
	.781	.312	**4-5**
	.844	.375	**4-6**
	.906	.438	**4-7**
	.969	.500	**4-8**
	1.031	.562	**4-9**
	1.093	.625	**4-10**
	1.156	.688	**4-11**
	1.219	.750	**4-12**
	1.281	.812	**4-13**
	1.343	.875	**4-14**
.3125-24	1.468	1.000	**4-16**
	.781	.250	**5-4**
	.844	.312	**5-5**
	.906	.375	**5-6**
	.969	.438	**5-7**
	1.031	.500	**5-8**
	1.093	.562	**5-9**
	1.156	.625	**5-10**
	1.219	.688	**5-11**
	1.281	.750	**5-12**
	1.531	1.000	**5-16**

MS35214 (AN515B) *(Course Thread)*
MS35215 (AN520B) *(Fine Thread)*

Black Brass Instrument
Pan Head Screw



Thread	Length	MS35214	AN515B
4-40	1/4″	**12**	440R4
	5/16″	**13**	440R5
	3/8″	**14**	440R6
	5/16″	**15**	440R7
	1/2″	**16**	440R8
	5/8″	**17**	440R10
	3/4″	**18**	440R12
	1″	**20**	440R16
6-32	5/16″	**24**	632R5
	3/8″	**25**	632R6
	7/16″	**26**	632R7
	1/2″	**27**	632R8
	5/8″	**28**	632R10
	3/4″	**29**	632R12
	7/8″	**30**	632R14
	1″	**31**	632R16
	1-1/4″	**32**	632R20
	1-1/2″	**33**	632R24
	1-3/4″	**34**	632R28
	2″	**35**	632R32
8-32	3/8″	**40**	832R6
	1/2″	**42**	832R8
	5/8″	**43**	832R10
	3/4″	**44**	832R12
	7/8″	**45**	832R14
	1″	**46**	832R16
	1-1/4″	**47**	832R20
	1-1/2″	**48**	832R24
	2″	**50**	832R32

Thread	Length	MS35215	AN520B
10-32	1/2″	**55**	1032R8
	5/8″	**56**	1032R10
	3/4″	**57**	1032R12
	1″	**59**	1032R16
	1-1/4″	**60**	1032R20
	1-1/2″	**61**	1032R24

MS24693-#B

100° Flat Head
Machine Screw
Corrosion Resistant Steel,
Black Oxide Coating



Thread Size	Length	MS24693
4-40	5/16″	**3B**
	3/8″	**4B**
6-32	3/8″	**26B**
	1/2″	**28B**
8-32	1/2″	**50B**
	5/8″	**51B**
10-32	3/4″	**274B**

MS24693BB (AN507B)

Black Brass Instrument
Pan Head Screw



Thread	Length	MS24693	AN507B
4-40	1/4″	**BB2**	440R4
	3/8″	**BB4**	440R6
	1/2″	**BB6**	440R8
	5/8″	**BB7**	440R10
	3/4″	**BB8**	440R12
	1″	**BB10**	440R16
6-32	1/4″	**BB24**	632R4
	5/16″	**BB25**	632R5
	3/8″	**BB26**	632R6
	7/16″	**BB27**	632R7
	1/2″	**BB28**	632R8
	5/8″	**BB29**	632R10
	3/4″	**BB30**	632R12
	7/8″	**BB31**	632R14
	1″	**BB32**	632R16
	1-1/8″	**BB33**	632R18
	1-1/4″	**BB34**	632R20
	1-1/2″	**BB36**	632R24
	2″	**BB40**	632R32
8-32	3/8″	**BB48**	832R6
	1/2″	**BB50**	832R8
	5/8″	**BB51**	832R10
	3/4″	**BB52**	832R12
	7/8″	**BB53**	832R14
	1″	**BB54**	832R16
	1-1/4″	**BB56**	832R20
	1-1/2″	**BB58**	832R24
	2″	**BB62**	832R32
10-32	1/2″	**BB272**	1032R8
	5/8″	**BB273**	1032R10
	3/4″	**BB274**	1032R12
	1″	**BB276**	1032R16

MS51957-#B *(Course Thread)*
MS51958-#B *(Fine Thread)*

Pan Head Machine Screw, Phillips,
Corrosion Resistant, Black Oxide Coating



Thread	Length	MS51957
4-40	1/4″	**13B**
	5/16″	**14B**
	3/8″	**15B**
	7/16″	**16B**
	1/2″	**17B**
	7/8″	**20B**
6-32	5/16″	**27B**
	7/16″	**29B**
	1/2″	**30B**
	3/4″	**32B**
	7/8″	**33B**
	1″	**34B**
8-32	3/8″	**43B**
	7/16″	**44B**
	1/2″	**45B**
	5/8″	**46B**
	3/4″	**47B**

Thread	Length	MS51958
10-32	7/16″	**62B**
	1/2″	**63B**
	5/8″	**64B**
	3/4″	**65B**

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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MS35265
MS35266



Fillister Head, Machine Screw, Drilled, Slotted

Thread Size	Length	MS35265	AN500
4-40	1/4″	-13	A4-4
	5/16″	-14	A4-5
	3/8″	-15	A4-6
	7/16″	-16	A4-7
	1/2″	-17	A4-8
	3/4″	-19	A4-12
	7/8″	-20	–
	1″	-21	–
	1-1/4″	-22	–
6-32	3/16″	-25	A6-3
	1/4″	-26	A6-4
	5/16″	-27	A6-5
	3/8″	-28	A6-6
	7/16″	-29	A6-7
	1/2″	-30	A6-8
	5/8″	-31	A6-10
	3/4″	-32	A6-12
	1″	-34	A6-16
	1-1/2″	-36	A6-24
8-32	1/4″	-41	A8-4
	5/16″	-42	A8-5
	3/8″	-43	A8-6
	7/16″	-44	A8-7
	1/2″	-45	A8-8
	5/8″	-46	A8-10
	3/4″	-47	A8-12
	7/8″	-48	A8-14
	1″	-49	A8-16
10-24	1/4″	-59	A10-4
	5/16″	-60	A10-5
	3/8″	-61	A10-6
	7/16″	-62	A10-7
	1/2″	-63	A10-8
	5/8″	-64	A10-10
	3/4″	-65	A10-12
	1″	-67	A10-16
Thread Size	**Length**	**MS35266**	**AN501**
10-32	1/4″	-59	A10-4
	5/16″	-60	A10-5
	3/8″	-61	A10-6
	7/16″	-62	A10-7
	1/2″	-63	A10-8
	5/8″	-64	A10-10
	3/4″	-65	A10-12
	7/8″	-66	A10-14
	1″	-67	A10-16
	1-1/4″	-68	----

AN502

Fillister Head Screw, Drilled, Slotted



Thread	Length	AN502-10
10-32	1/4″	-4
	3/8″	-6
	1/2″	-8
	5/8″	-10
	3/4″	-12
	7/8″	-14
	1″	-16
	1-1/8″	-18

AN503

Fillister Head Screw, Drilled, Slotted



Thread	Length	AN503-6
6-32	1/4″	-4
	3/8″	-6
	1/2″	-8
	5/8″	-10
Thread	**Length**	**AN503-8**
8-32	1/4″	-4
	3/8″	-6
	1/2″	-8
	5/8″	-10
	3/4″	-12
	7/8″	-14
	1″	-16
Thread	**Length**	**AN503-10**
10-24	3/8″	-6
	1/2″	-8
	5/8″	-10
	3/4″	-12
	1-1/8″	-18
	1-1/2″	-24
Thread	**Length**	**AN503-416**
1/4-28	5/8″	-10
	3/4″	-12

NAS1101

Flat Fillister Head
Full Thread Machine Screw
Offset Cruciform Recess



Thread	Length	NAS1101-
.1360-32	.375	06-6
	.500	06-8
.1640-32	.500	08-8
.1900-32	.438	3-7
	.500	3-8
	.563	3-9
	.625	3-10
	.750	3-12
	1.00	3-16
	1.25	3-20

NAS1351, NAS1352
MS16995, MS16996, MS16997, MS16998

Socket Head Screw - UNDRILLED



Diameter	Length	ALLOY STEEL		STAINLESS STEEL	
		NAS1352	MS16997	NAS1352	MS16995
.0860-56	1/4	02-4P	2	C02-4	2
	3/8	02-6P	3	C02-6	3
	1/2	02-8P	4	C02-8	4
	5/8	02-10P	–	C02-10	–
	3/4	02-12P	–	C02-12	–
.1120-40	1/4	04-4P	9	C04-4	9
	3/8	04-6P	10	C04-6	–
	1/2	04-8P	11	C04-8	10
	5/8	04-10P	12	C04-10	11
	3/4	04-12P	13	C04-12	12
.1380-32	1/4	06-4P	18	C06-4	16
	3/8	06-6P	19	C06-6	17
	1/2	06-8P	20	C06-8	18
	5/8	06-10P	21	C06-10	19
	3/4	06-12P	22	C06-12	20
.1640-32	1/4	08-4P	30	C08-4	–
	3/8	08-6P	31	C08-6	25
	1/2	08-8P	32	C08-8	26
	5/8	08-10P	33	C08-10	27
	3/4	08-12P	34	C08-12	28
	1	08-16P	36	C08-16	30
Diameter	**Length**	**NAS1351**	**MS16998**	**NAS1351**	**MS16996**
.1900-32	3/8	3-6P	26	C3-6	9
	1/2	3-8P	27	C3-8	10
	5/8	3-10P	28	C3-10	11
	3/4	3-12P	29	C3-12	12
	1	3-16P	31	C3-16	13
.2500-28	3/8	4-6P	40	C4-6	–
	1/2	4-8P	41	C4-8	21
	5/8	4-10P	42	C4-10	22
	3/4	4-12P	43	C4-12	23
	1	4-16P	45	C4-16	24
	1-1/4	4-20P	46	C4-20	25
	1-1/2	4-24P	47	C4-24	26

NAS1351, NAS1352
MS24673, MS24674, MS24677, MS24678

Socket Head Screw - DRILLED



Diameter	Length	ALLOY STEEL		STAINLESS STEEL	
		NAS1352	MS24677	NAS1352	MS24674
.1380-32	3/8	06H6P	7	C06H6	2
	1/2	06H8P	8	C06H8	3
	5/8	06H10P	9	C06H10	4
	3/4	06H12P	10	C06H12	5
.1640-32	3/8	08H6P	14	C08H6	7
	1/2	08H8P	15	C08H8	8
	5/8	08H10P	16	C08H10	9
Diameter	**Length**	**NAS1351**	**MS24678**	**NAS1351**	**MS24673**
.1900-32	3/8	3H6P	9	C3H6	1
	1/2	3H8P	10	C3H8	2
	5/8	3H10P	11	C3H10	3
	3/4	3H12P	12	C3H12	4
.2500-28	3/8	4H6P	19	–	–
	1/2	4H8P	20	C4H8	9
	5/8	4H10P	21	C4H10	10
	3/4	4H12P	22	C4H12	11
	1	4H16P	24	C4H16	12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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NAS1801



Hex Head Screw
Full Thread, Cruciform Recess
Alloy Steel

Length	4-40 Dia. NAS1801	6-32 Dia. NAS1801	8-32 Dia. NAS1801	10-32 Dia. NAS1801
.250	-04-4	-06-4	-08-4	-3-4
.312	-04-5	-06-5	-08-5	-3-5
.375	-04-6	-06-6	-08-6	-3-6
.437	-04-7	-06-7	-08-7	-3-7
.500	-04-8	-06-8	-08-8	-3-8
.563	-04-9	-06-9	-08-9	-3-9
.625	-04-10	-06-10	-08-10	-3-10
.750	-04-12	-06-12	-08-12	-3-12
.875	---	---	-08-14	-3-14
1.00	-04-16	---	-08-16	-3-16
1.12	---	---	-08-18	-3-18
1.25	---	---	-08-20	-3-20
1.375	---	---	-08-22	-3-22
1.50	---	---	-08-24	-3-24
1.625	---	---	---	-3-26
1.75	---	---	---	-3-28
1.875	---	---	---	-3-30

AN565

Flat Point *Cup Point*



Set Screws, Hex Socket Head
Length in 1/16 of an inch
Add Point Style Type after Base #
"A" after Base # for Flat Point
"D" after Base # for Cup Point

4-40 Dia. AN565	6-32 Dia. AN565	8-32 Dia. AN565	10-32 Dia. AN565
A4H2	A6H3	A8H2	A1032H4
A4H3	A6H4	A8H3	A1032H5
A4H4	A6H5	A8H4	A1032H6
A4H5	A6H6	A8H5	D1032H4
D4H2	D6H2	A8H6	D1032H5
D4H3	D6H3	D8H3	D1032H6
D4H4	D6H4	D8H4	D1032H8
D4H5	D6H5	D8H6	D1032H9

NAS1802



Hex Head Screw
Full Thread, Cruciform Recess
A286 CRES Steel

Length	4-40 Dia. NAS1802	6-32 Dia. NAS1802	10-32 Dia. NAS1802
.375	-04-6	-06-6	-3-6
.437	-04-7	-06-7	-3-7
.500	-04-8	-06-8	-3-8

MS35308



Hex Head Cap Screw
Corrosion Resistant Steel
Passivated, 1/4-28 Thread

Length	Part Number	Length	Part Number
.500	MS35308-303	.875	MS35308-307
.562	MS35308-304	1.00	MS35308-308
.625	MS35308-305	1.25	MS35308-310
.750	MS35308-306	1.50	MS35308-312

NAS1096



Hex Head Recessed Screw
Fully Threaded,
125,000-145,000 PSI

Length	6-32 Dia. NAS1096	8-32 Dia. NAS1096	10-32 Dia. NAS1096
1/4	1-4	2-4	3-4
5/16	1-5	2-5	3-5
3/8	1-6	2-6	3-6
7/16	1-7	2-7	3-7
1/2	1-8	2-8	3-8
9/16	1-9	2-9	3-9
5/8	1-10	2-10	3-10
3/4	1-12	2-12	3-12
7/8	1-14	2-14	3-14
1	1-16	2-16	3-16
1-1/4	---	---	3-20
2	---	---	3-32

NAS1153

Steel *Corrosion Resistant* *Titanium Alloy*



100° Close Tolerance Machine Screw
Short Thread, Offset Cruciform
160,000 KSI
Available in Steel,Titanium Alloy, & Corrosion Resistant

Material Codes:

A Dash" – " after Base # designates Steel
***"E"** after Base # designates A286 Corrosion Resistant Steel*
***"V"** after Base # designates Titanium Alloy (6Al-4V)*

Finish Codes:

Steel: ***No Code Letter*** *after Dash # for Cad Plate, Type 2, Class 2 per QQ-P-416*
Corrosion Resistant: ***No Letter*** *after Dash # designates Passivated per QQ-P-35*
Letter ***"P"*** *after Dash # designates Cad Plate, Type 2, Class 2 per QQ-P-416*
Letter ***"A"*** *after Dash # designates Aluminum Coating per NAS4006*
Titanium Alloy: ***No Code Letter*** *after Dash # designates No Plating*
Letter ***"A"*** *after Dash # designates Aluminum Coating per NAS4006*

NAS1153	Grip	Length
2	.125	.401
3	.188	.464
4	.250	.526
5	.312	.588
6	.375	.651
7	.438	.714
8	.500	.776
9	.562	.838
10	.625	.901

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21207 *(CAD II PLATING)*
NAS548P *(CAD I PLATING)*



100° Flat Head Tapping Screw

Diam.	Length	MS21207	NAS548P
No. 4	1/4	4-4	4-4
	3/8	4-6	4-6
	1/2	4-8	4-8
No. 6	3/8	6-6	6-6
	1/2	6-8	6-8
	5/8	6-10	6-10
	3/4	6-12	6-12
	7/8	6-14	6-14
No. 8	3/8	8-6	8-6
	1/2	8-8	8-8
	5/8	8-10	8-10
	3/4	8-12	8-12
No. 10	3/8	10-6	10-6
	1/2	10-8	10-8
	5/8	10-10	10-10
	3/4	10-12	10-12

MS21318



Drive Screw

Length	Dia. .058	Dia. .073	Dia. .098	Dia. .114
1/8	MS21318-1	MS21318-7	MS21318-13	----
3/16	MS21318-2	MS21318-8	MS21318-14	MS21318-20
1/4	----	MS21318-9	MS21318-15	MS21318-21
5/16	----	----	----	MS21318-22

NAS1102



100° Flat Head
Full Thread Machine Screw
Offset Cruciform Recess
Add ***"E"*** *after Base # for CRES Steel*

Length	.1360-32 NAS1102-	.1640-32 NAS1102-	.1900-32 NAS1102-
.250	---	---	3-4
.312	06-5	---	---
.375	06-6	08-6	3-6
.438	---	08-7	3-7
.500	06-8	08-8	3-8
.625	06-10	08-10	3-10
.750	---	08-12	3-12
.875	---	---	3-14
1.00	---	08-16	3-16
1.25	---	---	3-20
1.50	---	---	3-24
1.75	---	---	3-28

NAS1623



100° Flat Head Machine Screw
Short Thread (10-32 Dia.)
Offset Cruciform

NAS1623	Length	Grip
2	.401	.125
3	.464	.188
4	.526	.250
5	.588	.312
6	.651	.375

MS51861, AN530



Pan Head Tapping Screw,
MS51861 Type A Point,
AN530 Type B Point
Add ***"C"*** *after Dash # for*
Corrosion Resistant (MS51861 ONLY)

Diam.	Length	MS51861	AN530
No. 4	1/4	12	4R4
	3/8	14	4R6
	1/2	15	4R8
	5/8	16	4R10
	3/4	17	4R12
No. 6	1/4	22	6R4
	3/8	24	6R6
	1/2	25	6R8
	5/8	26	6R10
	3/4	27	6R12
	7/8	28	6R14
No. 8	3/8	34	8R6
	1/2	35	8R8
	5/8	36	8R10
	3/4	37	8R12
No. 10	3/8	44	10R6
	1/2	45	10R8
	5/8	46	10R10
	3/4	47	10R12
	1	48	10R16

MS35190 (AN505)
MS35191 (AN510)



Machine Screw, 82° Flat Head
Carbon Steel, Tensile Min. 60,000

Thread	Length	MS35190	AN505
4-40	.250	221	440R4
	.312	222	440R5
	.375	223	440R6
	.438	224	440R7
	.500	225	440R8
	.625	226	440R10
6-32	.250	234	632R4
	.375	236	632R6
	.500	238	632R8
	.625	239	632R10
	.750	240	632R12
8-32	.312	250	832R5
	.375	251	832R6
	.438	252	832R7
	.500	253	832R8
	.625	254	832R10
	.750	255	832R12
	1.000	257	832R16
Thread	**Length**	**MS35191**	**AN510**
10-32	.250	268	1032R4
	.375	270	1032R6
	.500	272	1032R8
	.625	273	1032R10
	.750	274	1032R12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

SHEET METAL SCREW

Truss Head, Flat Head 82° & Pan Head, Phillips (Per 100)



Truss Head		Flat Head		Pan Head	
Steel	Stainless	Steel	Stainless	Steel	Stainless
4X1/4THA	4X1/4THA S/S	4X1/4FHA	4X1/4FHA S/S	4X1/4PHA	4X1/4PHA S/S
4X3/8THA	4X3/8THA S/S	4X3/8FHA	4X3/8FHA S/S	4X3/8PHA	4X3/8PHA S/S
4X1/2THA	4X1/2THA S/S	4X1/2FHA	4X1/2FHA S/S	4X1/2PHA	4X1/2PHA S/S
4X5/8THA	4X5/8THA S/S	4X5/8FHA	4X5/8FHA S/S	4X5/8PHA	4X5/8PHA S/S
4X3/4THA	4X3/4THA S/S	4X3/4FHA	4X3/4FHA S/S	4X3/4PHA	4X3/4PHA S/S
6X3/8THA	6X3/8THA S/S	6X3/8FHA	6X3/8FHA S/S	6X3/8PHA	6X3/8PHA S/S
6X1/2THA	6X1/2THA S/S	6X1/2FHA	6X1/2FHA S/S	6X1/2PHA	6X1/2PHA S/S
6X5/8THA	6X5/8THA S/S	6X5/8FHA	6X5/8FHA S/S	6X5/8PHA	6X5/8PHA S/S
6X3/4THA	6X3/4THA S/S	6X3/4FHA	6X3/4FHA S/S	6X3/4PHA	6X3/4PHA S/S
6X1THA	6X1THA S/S	6X1FHA	6X1FHA S/S	6X1PHA	6X1PHA S/S
8X3/8THA	8X3/8THA S/S	8X3/8FHA	8X3/8FHA S/S	8X3/8PHA	8X3/8PHA S/S
8X1/2THA	8X1/2THA S/S	8X1/2FHA	8X1/2FHA S/S	8X1/2PHA	8X1/2PHA S/S
8X5/8THA	8X5/8THA S/S	8X5/8FHA	8X5/8FHA S/S	8X5/8PHA	8X5/8PHA S/S
8X3/4THA	8X3/4THA S/S	8X3/4FHA	8X3/4FHA S/S	8X3/4PHA	8X3/4PHA S/S
8X1THA	8X1THA S/S	8X1FHA	8X1FHA S/S	8X1PHA	8X1PHA S/S
10X1/2THA	10X1/2THA S/S	10X1/2FHA	10X1/2FHA S/S	10X1/2PHA	10X1/2PHA S/S
10X5/8THA	10X5/8THA S/S	10X5/8FHA	10X5/8FHA S/S	10X5/8PHA	10X5/8PHA S/S
10X3/4THA	10X3/4THA S/S	10X3/4FHA	10X3/4FHA S/S	10X3/4PHA	10X3/4PHA S/S
10X1THA	10X1THA S/S	10X1FHA	10X1FHA S/S	10X1PHA	10X1PHA S/S

OVAL HEAD

Sheet Metal Screws



Steel	Stainless
4X3/8OHA	4X3/8OHA S/S
4X1/2OHA	4X1/2OHA S/S
4X5/8OHA	4X5/8OHA S/S
4X3/4OHA	4X3/4OHA S/S
6X3/8OHA	6X3/8OHA S/S
6X1/2OHA	6X1/2OHA S/S
6X5/8OHA	6X5/8OHA S/S
6X3/4OHA	6X3/4OHA S/S
6X1OHA	6X1OHA S/S
8X1/2OHA	8X1/2OHA S/S
8X5/8OHA	8X5/8OHA S/S
8X3/4OHA	8X3/4OHA S/S
8X1OHA	8X1OHA S/S
10X1/2OHA	10X1/2OHA S/S
10X5/8OHA	10X5/8OHA S/S
10X3/4OHA	10X3/4OHA S/S
10X1OHA	10X1OHA S/S

PAN HEAD

Sheet Metal Screws Type "B"



Steel	Stainless
6X3/8PHB	6X3/8PHB S/S
6X1/2PHB	6X1/2PHB S/S
6X5/8PHB	6X5/8PHB S/S
6X3/4PHB	6X3/4PHB S/S
8X1/2PHB	8X1/2PHB S/S
8X5/8PHB	8X5/8PHB S/S
8X3/4PHB	8X3/4PHB S/S
8X1PHB	8X1PHB S/S
10X1/2PHB	10X1/2PHB S/S
10X5/8PHB	10X5/8PHB S/S
10X3/4PHB	10X3/4PHB S/S
10X1PHB	10X1PHB S/S

FLAT HEAD 82°

Sheet Metal Screws Type "B"



Steel	Stainless
6X1/2FHB	6X1/2FHB S/S
6X3/4FHB	6X3/4FHB S/S
8X1/2FHB	8X1/2FHB S/S
8X3/4FHB	8X3/4FHB S/S
10X1/2FHB	10X1/2FHB S/S
10X3/4FHB	10X3/4FHB S/S

OHMSC

Oval Head Machine Screw, Stainless



Length	OHMSC	OHMSC	OHMSC	OHMSC
1/4	440R4	632R4	832R4	1032R4
3/8	440R6	632R6	832R6	1032R6
1/2	440R8	632R8	832R8	1032R8
5/8	440R10	632R10	832R10	1032R10
3/4	440R12	632R12	832R12	1032R12
1	440R16	632R16	832R16	1032R16

FLAT HEAD 100°

Sheet Metal Screws Stainless Type "A"



Stainless
6X1/2FHA S/S100°
8X1/2FHA S/S 100°
10X1/2FHA S/S 100°

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

POP RIVETS

Non-Structural, Commercial Grade, Domed



Aluminum Rivet / Aluminum Mandrel - SMALL FLANGE

Diameter	Grip Range	POP	Marson
3/32	.032-.125	AD32ABS	AB3-2A
	.126-.250	AD34ABS	AB3-4A
1/8	.063-.125	AD42ABS	AB4-2A
	.126-.187	AD43ABS	AB4-3A
	.188-.250	AD44ABS	AB4-4A
	.251-.312	AD45ABS	AB4-5A
	.313-.375	AD46ABS	AB4-6A
5/32	.062-.125	AD52ABS	AB5-2A
	.126-.187	AD53ABS	AB5-3A
	.188-.250	AD54ABS	AB5-4A

Aluminum Rivet / Aluminum Mandrel - LARGE FLANGE

Diameter	Grip Range	POP	Marson
1/8	.032-.125	AD42ABSLF	ABL4-2A
	.126-.187	AD43ABSLF	ABL4-3A
	.188-.250	AD44ABSLF	ABL4-4A
5/32	.188-.250	AD54ABSLF	ABL5-4A

Aluminum Rivet / Steel Mandrel - SMALL FLANGE

Diameter	Grip Range	POP	Marson
3/32	.032-.125	AD32BS	AB3-2
	.126-.250	AD34BS	AB3-4
1/8	.063-.125	AD42BS	AB4-2
	.126-.187	AD43BS	AB4-3
	.188-.250	AD44BS	AB4-4
	.251-.312	AD45BS	AB4-5
	.313-.375	AD46BS	AB4-6
5/32	.062-.125	AD52BS	AB5-2
	.126-.187	AD53BS	AB5-3
	.188-.250	AD54BS	AB5-4

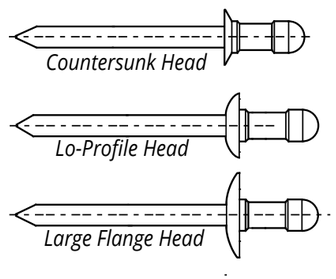
Aluminum Rivet / Steel Mandrel - LARGE FLANGE

Diameter	Grip Range	POP	Marson
1/8	.032-.125	AD42BSLF	ABL4-2
	.126-.187	AD43BSLF	ABL4-3
	.188-.250	AD44BSLF	ABL4-4
	.313-.375	AD46BSLF	ABL4-6
5/32	.188-.250	AD54BSLF	ABL5-4

AVEX RIVETS

Non-Structural, Aluminum Body, Steel Stem

Diameter	Grip Range	Part#	Rivet Style
1/8	.046-.250	1604-0412	Countersunk Flange
	.031-.187	1691-0410 New Rev. 1661-0410 Old Rev.	Low Profile Head
		1692-0410 New Rev. 1641-0410 Old Rev.	Large Flange
5/32	.125-.312	1692-0414	
		1661-0512	Low Profile Head
1/8	.031-.187	1601-0410 New Rev.	
		1693-0410 Old Rev.	Small Flange
5/32	.125-.312	1693-0414	
		1693-0512	



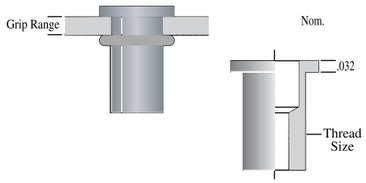
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1329, MS27130

Rivet Nut, Flat Head, Internal Thread
Keyed (K) and, Unkeyed

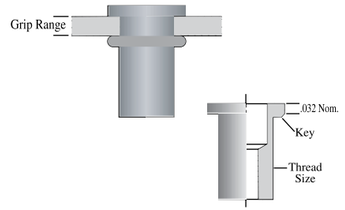
UNKEYED

Thread Size	Grip Range	Mfg. Part #	MS27130	NAS1329
4-40	.010 - .060	---	A1	NAS1329A04-60
6-32	.010 - .075	A6-75	A7	NAS1329A06-75
	.075 - .120	A6-120	A8	NAS1329A06-120
8-32	.010 - .075	A8-75	A13	NAS1329A08-75
	.075 - .120	A8-120	A14	NAS1329A08-120
10-32	.010 - .080	A10-80	A25	NAS1329A3-80
	.010 - .080	S10-80	S25	NAS1329S3-80
	.080 - .140	AEA10-140	---	---



KEYED

Thread Size	Grip Range	Mfg. Part #	MS27130	NAS1329
6-32	.010 - .075	A6K-75	A7K	NAS1329A06K75
	.075 - .120	A6K-120	A8K	NAS1329A06K120
	.120 - .160	A6K-160	A9K	NAS1329A06K160
8-32	.010 - .075	A8K-75	A13K	NAS1329A08K75
	.075 - .120	A8K-120	A14K	NAS1329A08K120
	.120 - .160	A8K-160	A15K	NAS1329A08K160
10-32	.010 - .080	A10K-80	A25K	NAS1329A3K80
	.080 - .130	A10K-130	A26K	NAS1329A3K130
	.130 - .180	A10K-180	A27K	NAS1329A3K180

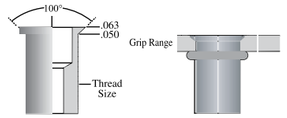


NAS1330, MS27130

Rivet Nut, Countersunk Head, Internal Thread
Keyed (K) and Unkeyed

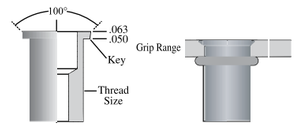
UNKEYED

Thread Size	Grip Range	Mfg. Part #	MS27130	NAS1330
6-32	.065 - .106	A6-106	A87	NAS1330A06-106
8-32	.065 - .106	A8-106	A93	NAS1330A08-106



KEYED

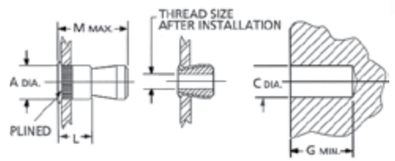
Thread Size	Grip Range	Mfg. Part #	MS27130	NAS1330
6-32	.065 - .106	A6K106	A87K	NAS1330A06K106
8-32	.065 - .106	A8K106	A93K	NAS1330A08K106



NUTSERT

9505 Series, Splined Body
Carbon Steel, Cadmium Plate





Thread Size	Part #	A min.	L ±.05	M max.	Material Thickness G Dim. .03-.09	G Dim. .091-.124	G Dim. .125-.186	G Dim. .187-over
					* Recommended min. hole size C			
4-40	9505-04	.182	.185	.385	.1875	.1935	.1935	.1935
6-32	9505-06	.214	.185	.385	.2187	.2210	.2280	.2280
8-32	9505-08	.245	.185	.385	.2500	.2570	.2656	.2656
10-24	9505-10	.276	.185	.385	.2812	.2900	.2968	.2968

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1669

Jo Bolts, Blind Fastener
Internally Threaded, External Sleeve
"L" after First Dash # indicates Self-Locking Feature
"DL" after First Dash # indicates Self-Locking and Drive Nut Features

NAS1669
Protruding Head



Grip Range	Diameter	NAS1669	NAS1669	Diameter	NAS1669	NAS1669	Diameter	NAS1669
.094 - .156	.164	08L2	08DL2	.200	3L2	3DL2	.260	4L2
.157 - .217		08L3	08DL3		3L3	3DL3		4L3
.220 - .281		08L4	08DL4		3L4	3DL4		4L4
.282 - .344		08L5	08DL5		3L5	3DL5		4L5
.345 - .406		08L6	08DL6		3L6	3DL6		4L6
.407 - .469	.164	08L7	---	.200	3L7	---	.260	4L7
.470 - .531		08L8	---		3L8	---		4L8
.532 - .594		08L9	---		3L9	---		4L9
.595 - .656		08L10	---		3L10	---		---

NAS1670

Jo Bolts, Blind Fastener
Internally Threaded, External Sleeve
"L" after First Dash # indicates Self-Locking Feature

NAS1670
Flush Head



Grip Range	Diameter	NAS1670	Diameter	NAS1670
.094 - .156	.164	08L2	.200	3L2
.157 - .217		08L3		3L3
.220 - .281		08L4		3L4
.282 - .344		08L5		3L5
.345 - .406		08L6		3L6
.407 - .469		08L7		3L7
.470 - .531		08L8		3L8

NAS1750
NAS1751

Jo Bolts, Blind Fastener
Internally Threaded, External Sleeve

NAS1750
Flush Head



NAS1751
Protruding Head



Grip Range	Diameter	NAS1750	Diameter	NAS1750
.094 - .156	.164	08L2	.200	3L2
.157 - .217		08L3		3L3
.220 - .281		08L4		3L4
.282 - .344		08L5		3L5
.345 - .406		08L6		3L6
.407 - .469		08L7		3L7
.470 - .531		08L8		3L8

Grip Range	Diameter	NAS1751	Diameter	NAS1751
.094 - .156	.164	08L2	.200	3L2
.157 - .217		08L3		3L3
.220 - .281		08L4		3L4
.282 - .344		08L5		3L5
.345 - .406		08L6		3L6
.407 - .469		08L7		3L7
.470 - .531		08L8		3L8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS90353

Blind Rivet, 100° Flush Head
High Strength
Alloy Steel 112KSI



1ST DASH NUMBER (DIAMETER)		NOM. SIZE
DOUBLE ACTION	SINGLE ACTION	
-05	S05	5/32
-06	S06	3/16

"-" after basic part # denotes installation with a double action tool.
"S" after basic part # denotes fastener installed with a single action tool.
"U" after basic part # denotes single action fasteners installed with a single action tool.

Diameter	Minimum Grip	Maximum Grip	MS90353	MS90353	MS90353
5/32	.156	.220	-0503	S0503	U0503
	.219	.282	-0504	S0504	U0504
	.281	.345	-0505	S0505	U0505
	.344	.407	-0506	S0506	U0506
	.406	.470	-0507	S0507	U0507
	.469	.523	-0508	S0508	U0508
Diameter	**Minimum Grip**	**Maximum Grip**	**MS90353**	**MS90353**	**MS90353**
3/16	.156	.220	-0603	S0603	U0603
	.219	.282	-0604	S0604	U0604
	.281	.345	-0605	S0605	U0605
	.344	.407	-0606	S0606	U0606
	.406	.470	-0607	S0607	U0607
	.469	.523	-0608	S0608	U0608

MS90354

Blind Rivet, Protruding Head
High Strength
Alloy Steel 112KSI



1ST DASH NUMBER (DIAMETER)		NOM. SIZE
DOUBLE ACTION	SINGLE ACTION	
-05	S05	5/32
-06	S06	3/16

"-" after basic part # denotes installation with a double action tool.
"S" after basic part # denotes fastener installed with a single action tool.
"U" after basic part # denotes single action fasteners installed with a single action tool.

Diameter	Minimum Grip	Maximum Grip	MS90354	MS90354	MS90354
5/32	.094	.157	-0502	S0502	U0502
	.156	.220	-0503	S0503	U0503
	.219	.282	-0504	S0504	U0504
	.281	.345	-0505	S0505	U0505
	.344	.407	-0506	S0506	U0506
	.406	.470	-0507	S0507	U0507
	.469	.523	-0508	S0508	U0508
Diameter	**Minimum Grip**	**Maximum Grip**	**MS90354**	**MS90354**	**MS90354**
3/16	.094	.157	-0602	S0602	U0602
	.156	.220	-0603	S0603	U0603
	.219	.282	-0604	S0604	U0604
	.281	.345	-0605	S0605	U0605
	.344	.407	-0606	S0606	U0606
	.406	.470	-0607	S0607	U0607
	.469	.523	-0608	S0608	U0608

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1436 *(.190 Dia.)*
NAS1438 *(.250 Dia.)*

Pin, Swage Locking
Steel, Standard
100° Shear Head, Pull Type



Grip Dash Number	Max. Grip	Grip Range	
		Min.	Max.
02	.125	.062	.125
03	.188	.126	.188
04	.250	.189	.250
05	.312	.251	.312
06	.375	.313	.375
07	.438	.376	.438
08	.500	.439	.500
09	.562	.501	.562
10	.625	.563	.625

NAS1456 *(.190 Dia.)*
NAS1458 *(.250 Dia.)*

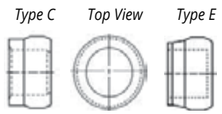
Pin, Swage Locking
Steel, Standard
100° Head Tension,Pull Type



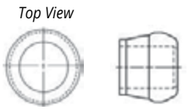
Grip Dash Number	Max. Grip	Grip Range	
		Min.	Max.
02	.125	.095	.156
03	.188	.157	.219
04	.250	.220	.281
05	.312	.282	.344
06	.375	.345	.406
07	.438	.407	.469
08	.500	.470	.531
09	.562	.532	.592
10	.625	.595	.656

NAS1080 Collar

Swage-Locking for Pull Type Lockbolts









Shear				Tension			
NAS Part #	Nom. Size	Total Length		NAS Part #	Nom. Size	Total Length	
		Min.	Max.			Min.	Max.
NAS1080C06	.190	.185	.205	NAS1080-05	.164	.170	.200
NAS1080E06				NAS1080AT05			
NAS1080G06				NAS1080R05			
NAS1080AG06				NAS1080-06	.190	.233	.263
NAS1080C08	.250	.220	.236	NAS1080R06			
NAS1080E08				NAS1080-08	.250	.305	.335
NAS1080G08		.230	.250	NAS1080R08			
NAS1080AG08							

"C" indicates 2024 Aluminum
"E" indicates Carbon steel
"G" indicates 2024 Aluminum alloy
"AG" indicates 2219 Aluminum
"–" indicates 2024 Aluminum
"AT" indicates 2219 Aluminum Alloy
"R" indicates Carbon steel

NAS1446 *(.190 Dia.)*
NAS1448 *(.250 Dia.)*

Pin Swage Locking
Steel, Standard
Protruding Head, Shear Pull Type



Grip Dash Number	Max. Grip	Grip Range	
		Min.	Max.
02	.125	.062	.125
03	.188	.126	.188
04	.250	.189	.250
05	.312	.251	.312
06	.375	.313	.375
07	.438	.376	.438
08	.500	.439	.500
09	.562	.501	.562
10	.625	.563	.625

NAS1465 *(.164 Dia.)*
NAS1466 *(.190 Dia.)*
NAS1468 *(.250 Dia.)*

Pin, Swage Locking, Steel,
Standard & Protruding Head, Tension Pull-Type

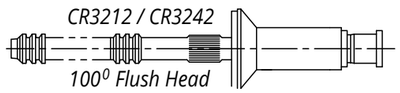


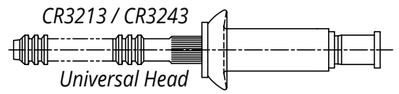
Grip Dash Number	Max. Grip	Grip Range	
		Min.	Max.
02	.125	.095	.156
03	.188	.157	.219
04	.250	.220	.281
05	.312	.282	.344
06	.375	.345	.406
07	.438	.407	.469
08	.500	.470	.531
09	.562	.532	.592
10	.625	.595	.656

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

CHERRYMAX RIVET
CR3212, CR3213
CR3242, CR3243

Alloy Steel Stem
Aluminum Rivet

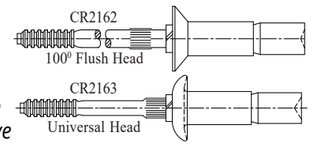




Diameter	Grip Range	CR3212	Diameter	Grip Range	CR3213
1/8	.025 - .062	---	1/8	.025 - .062	4-01
	.063 - .125	4-02		.063 - .125	4-02
	.126 - .187	4-03		.126 - .187	4-03
	.188 - .250	4-04		.188 - .250	4-04
	.251 - .312	4-05		.251 - .312	4-05
	.313 - .375	4-06		.313 - .375	4-06
	.376 - .437	4-07		.376 - .437	4-07
	.438 - .500	4-08		.438 - .500	4-08
	.501 - .562	4-09		.501 - .562	4-09
5/32	.031 - .062	--	5/32	.031 - .062	5-01
	.063 - .125	5-02		.063 - .125	5-02
	.126 - .187	5-03		.126 - .187	5-03
	.188 - .250	5-04		.188 - .250	5-04
	.251 - .312	5-05		.251 - .312	5-05
	.313 - .375	5-06		.313 - .375	5-06
	.376 - .437	5-07		.376 - .437	5-07
	.438 - .500	5-08		.438 - .500	5-08
	.501 - .562	5-09		.501 - .562	5-09
	.563 - .625	5-10		.563 - .625	5-10
3/16	.037 - .062	--	3/16	.037 - .062	6-01
	.063 - .125	6-02		.063 - .125	6-02
	.126 - .187	6-03		.126 - .187	6-03
	.188 - .250	6-04		.188 - .250	6-04
	.251 - .312	6-05		.251 - .312	6-05
	.313 - .375	6-06		.313 - .375	6-06
	.376 - .437	6-07		.376 - .437	6-07
	.438 - .500	6-08		.438 - .500	6-08
	.501 - .562	6-09		.501 - .562	6-09
	.563 - .625	6-10		.563 - .625	6-11
	.626 - .687	6-11		.626 - .687	6-12
Diameter	**Grip Range**	**C R 3242**	**Diameter**	**Grip Range**	**C R 3243**
.140	.025 - .062	4-01	.140	.025 - .062	4-01
	.063 - .125	4-02		.063 - .125	4-02
	.126 - .187	4-03		.126 - .187	4-03
	.188 - .250	4-04		.188 - .250	4-04
	.251 - .312	4-05		.251 - .312	4-05
	.313 - .375	4-06		.313 - .375	4-06
	.376 - .437	4-07		.376 - .437	4-07
	.438 - .500	4-08		.438 - .500	4-08
	.501 - .562	4-09		.501 - .562	4-09
.173	.031 - .062	--	.173	.031 - .062	5-01
	.063 - .125	5-02		.063 - .125	5-02
	.126 - .187	5-03		.126 - .187	5-03
	.188 - .250	5-04		.188 - .250	5-04
	.251 - .312	5-05		.251 - .312	5-05
	.313 - .375	5-06		.313 - .375	5-06
	.376 - .437	5-07		.376 - .437	5-07
	.438 - .500	5-08		.438 - .500	5-08
	.501 - .562	5-09		.501 - .562	5-09
.201	.037 - .062	--	.201	.037 - .062	6-01
	.063 - .125	6-02		.063 - .125	6-02
	.126 - .187	6-03		.126 - .187	6-03
	.188 - .250	6-04		.188 - .250	6-04
	.251 - .312	6-05		.251 - .312	6-05
	.313 - .375	6-06		.313 - .375	6-06
	.376 - .437	6-07		.376 - .437	6-07
	.438 - .500	6-08		.438 - .500	6-08
	.501 - .562	6-09		.501 - .562	6-09

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

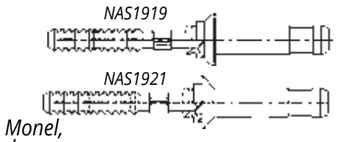
CHERRYLOCK RIVET
(WIREDRAW)
CR2162
CR2163



7075 Aluminum Stem
2017 Aluminum Sleeve

Diameter	Grip Range	CR2162	CR2163
1/8	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05

NAS1919M
NAS1921M

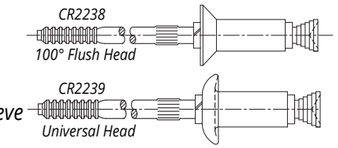


100°Flush Head,
Blind Rivet,Bulbed, Monel,
Mechanically-Locked
Spindle. "S" after first dash
number indicates for use with single action,
non-shifting tooling

Diameter	Grip Range	NAS1919
.125	.063 - .125	M04-02
	.126 - .187	M04-03
	.188 - .250	M04-04
	.251 - .312	M04-05
.156	.080 - .125	M05-02
	.126 - .187	M05-03
	.188 - .250	M05-04
	.251 - .312	M05-05
.125	.063 - .125	M04S02
	.126 - .187	M04S03
	.188 - .250	M04S04
	.251 - .312	M04S05
.156	.080 - .125	M05S02
	.126 - .187	M05S03
	.188 - .250	M05S04
	.251 - .312	M05S05

Diameter	Grip Range	NAS1921
.125	.063 - .125	M04-02
	.126 - .187	M04-03
	.188 - .250	M04-04
	.251 - .312	M04-05
.156	.080 - .125	M05-02
	.126 - .187	M05-03
	.188 - .250	M05-04
	.251 - .312	M05-05
.125	.063 - .125	M04S02
	.126 - .187	M04S03
	.188 - .250	M04S04
	.251 - .312	M04S05
.156	.080 - .125	M05S02
	.126 - .187	M05S03
	.188 - .250	M05S04
	.251 - .312	M05S05

CHERRYLOCK BULBED RIVET
CR2238
CR2239



Inconel 600 Stem
5056 Aluminum Sleeve
Monel Lock Ring

Diameter	Grip Range	CR2238	CR2239
1/8	.045 - .062	---	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	---

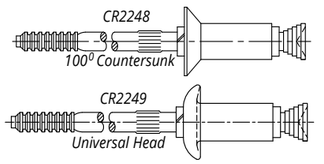
CHERRYLOCK BULBED RIVET
CR2245



Aluminum Rivet
8740 Steel Stem
Unisink Head

Diameter	Grip Range	CR2245
1/8	.045 - .062	4-01
	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05

CHERRYLOCK BULBED RIVET
CR2248
CR2249

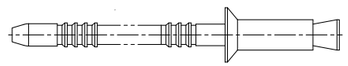


Alloy Steel Stem
Aluminum Sleeve

Diameter	Grip Range	CR2248	CR2249
1/8	.020 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
3/16	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

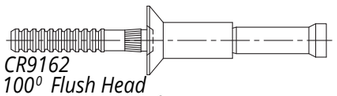
CCR264



Cherry Nutplate Rivet
MS20426 100° Countersunk Head

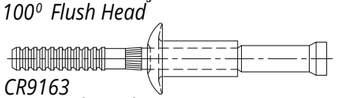
Dia.	Grip Range	Carbon Steel CCR264	Corrosion Resistant CCR264
3/32	.046 - .062	SS3-01	CS3-01
	.063 - .125	SS3-02	CS3-02
	.126 - .187	SS3-03	CS3-03
	.188 - .250	SS3-04	CS3-04
	.251 - .312	SS3-05	CS3-05
	.313 - .375	SS3-06	CS3-06
	.376 - .437	SS3-07	CS3-07
	.438 - .500	SS3-08	CS3-08
1/8	.064 - .125	SS4-02	CS4-02
	.126 - .187	SS4-03	CS4-03
	.188 - .250	SS4-04	CS4-04
	.251 - .312	SS4-05	CS4-05
	.313 - .375	SS4-06	CS4-06

CHERRY RIVET
CR9162
CR9163



CR9162
100° Flush Head

Self-Plugging,
Serrated Stem
Aluminum Stem
& Rivet



CR9163
Universal Head

Dia.	Grip Range	CR9162	CR9163
1/8	.025 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
3/16	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06

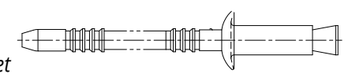
CHERRY "Q" RIVETS



AAPQ
5056 Aluminum Rivet
7178 Aluminum Mandrel

Diameter	Grip Range	Part#
1/8	.063 - .125	AAPQ-42
	.126 - .187	AAPQ-43
	.188 - .250	AAPQ-44

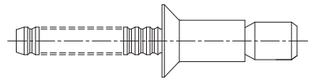
CCR274



Cherry Nutplate Rivet
Universal Head

Dia.	Grip Range	Carbon Steel CCR274	Corrosion Resistant CCR274
3/32	.046 - .062	SS3-01	CS3-01
	.063 - .125	SS3-02	CS3-02
	.126 - .187	SS3-03	CS3-03
	.188 - .250	SS3-04	CS3-04
	.251 - .312	SS3-05	CS3-05
	.313 - .375	SS3-06	CS3-06
	.376 - .437	SS3-07	CS3-07
	.438 - .500	SS3-08	CS3-08

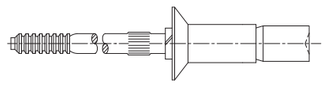
CR1122



Self-Plugging Rivet
A286 Stem
Aluminum Sleeve

Diameter	Grip	CR1122
3/32	.080 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
	.251 - .312	3-05

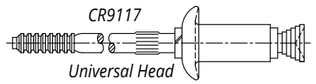
CHERRY RIVET
CR2662



Wire Draw
Countersunk Head
Corrosion Resistant
Monel Lock Ring

Diameter	Grip Range	CR2662
3/32	.063 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
	.251 - .312	3-05
	.313 - .375	3-06

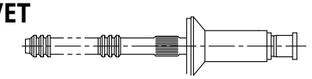
CHERRY RIVET
CR9117



Serrated Stem
Pull Through
Aluminum Rivet
Steel Stem

Diameter	Grip Range	CR9117
3/32	.063 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04

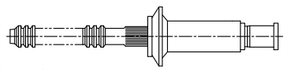
CHERRYMAX RIVET
CR3214



Alloy Steel Stem
Aluminum Alloy Sleeve
100° Flush Shear Head

Diameter	Grip Range	CR3214
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05
	.313 - .375	4-06
	.376 - .437	4-07
	.438 - .500	4-08
	.501 - .562	4-09
5/32	.065 - .125	5-02
	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
	.501 - .562	5-09
3/16	.080 - .125	6-02
	.126 - .187	6-03
	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06
	.376 - .437	6-07
	.438 - .500	6-08
1/4	.126 - .187	8-03
	.188 - .250	8-04
	.251 - .312	8-05
	.313 - .375	8-06

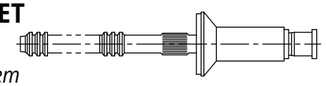
CHERRYMAX RIVET
CR3245



Unisink Head/ Oversize Diameter
Alloy Steel Stem,
Aluminum Alloy Sleeve

Diameter	Grip Range	CR3245
.140	.033 - .062	4-01
	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05
	.313 - .375	4-06
	.376 - .437	4-07
.173	.063 - .125	5-02
	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
.201	.063 - .125	6-02
	.126 - .187	6-03
	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06
	.376 - .437	6-07

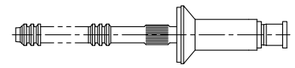
CHERRYMAX RIVET
CR3224



Corrosion Resistant Stem
Aluminum Alloy Sleeve
100° Flush Shear Head

Diameter	Grip Range	CR3224
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05
	.313 - .375	4-06
	.376 - .437	4-07
	.438 - .500	4-08
5/32	.065 - .125	5-02
	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
3/16	.080 - .125	6-02
	.126 - .187	6-03
	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06
	.376 - .437	6-07
	.438 - .500	6-08

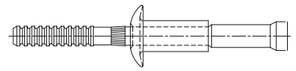
CHERRYMAX RIVET
CR3524



Corrosion Resistant Stem
Monel Sleeve
100° Flush Shear Head

Diameter	Grip Range	CR3524
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05
	.313 - .375	4-06
5/32	.065 - .125	5-02
	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
3/16	.080 - .125	6-02
	.126 - .187	6-03
	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06

CR9179



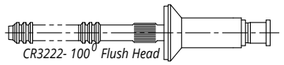
Self-Plugging Rivet
2117 Aluminum Stem
2017 Aluminum Sleeve

Diameter	Grip Range	CR9179
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

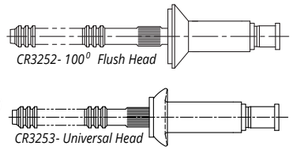
CHERRYMAX RIVET
CR3222
CR3223



Corrosion Resistant Stem Aluminum Alloy Rivet

Diameter	Grip Range	CR3222	CR3223
1/8	.025 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
	.376 - .437	5-07	5-07
	.438 - .500	5-08	5-08
3/16	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06
	.376 - .437	6-07	6-07
	.438 - .500	6-08	6-08

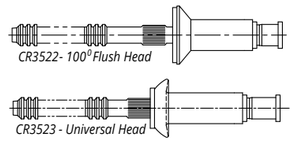
CHERRYMAX RIVET
CR3252
CR3253



Corrosion Resistant Stem Aluminum Alloy Rivet (Oversized)

Diameter	Grip Range	CR3252	CR3253
.140	.025 - .062	-	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
.173	.031 - .062	--	5-01
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
	.376 - .437	5-07	5-07
	.438 - .500	5-08	5-08
.201	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06
	.376 - .437	6-07	6-07
	.438 - .500	6-08	6-08

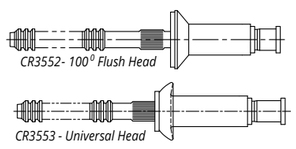
CHERRYMAX RIVET
CR3522
CR3523



Corrosion Resistant Stem Monel Rivet

Diameter	Grip Range	CR3522	CR3523
1/8	.025 - .062	---	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
5/32	.031 - .062	---	5-01
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
	.376 - .437	5-07	5-07
	.438 - .500	5-08	5-08
3/16	.037 - .062	---	6-01
	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06
	.376 - .437	6-07	6-07
	.438 - .500	6-08	6-08

CHERRYMAX RIVET
CR3552
CR3553



Corrosion Resistant Stem MonelRivet (Oversized)

Diameter	Grip Range	CR3552	CR3553
.140	.045 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
.173	.031 - .062	5-01	5-01
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
	.376 - .437	5-07	5-07
.201	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
	.313 - .375	6-06	6-06

MS20426AD

Solid Rivet
2117-T4, Aluminum Alloy



MS20426 - 100° Flush Head

Diameter	Length	MS20426	Diameter	Length	MS20426
3/32	1/8	AD3-2	5/32	1/8	AD5-2
	5/32	AD3-2.5		3/16	AD5-3
	3/16	AD3-3		7/32	AD5-3.5
	7/32	AD3-3.5		1/4	AD5-4
	1/4	AD3-4		9/32	AD5-4.5
	9/32	AD3-4.5		5/16	AD5-5
	5/16	AD3-5		11/32	AD5-5.5
	11/32	AD3-5.5		3/8	AD5-6
	3/8	AD3-6		13/32	AD5-6.5
	13/32	AD3-6.5		7/16	AD5-7
	7/16	AD3-7		1/2	AD5-8
	1/2	AD3-8		9/16	AD5-9
	9/16	AD3-9		5/8	AD5-10
	5/8	AD3-10		11/16	AD5-11
	11/16	AD3-11		3/4	AD5-12
	3/4	AD3-12		13/16	AD5-13
	7/8	AD3-14		7/8	AD5-14
	1	AD3-16		1	AD5-16
	1 - 1/4	AD3-20		1 - 1/4	AD5-20
	1 - 1/2	AD3-24		1 - 3/8	AD5-22
1/8	1/8	AD4-2	3/16	1 - 1/2	AD5-24
	5/32	AD4-2.5		3/16	AD6-3
	3/16	AD4-3		1/4	AD6-4
	7/32	AD4-3.5		5/16	AD6-5
	1/4	AD4-4		3/8	AD6-6
	9/32	AD4-4.5		7/16	AD6-7
	5/16	AD4-5		1/2	AD6-8
	11/32	AD4-5.5		9/16	AD6-9
	3/8	AD4-6		5/8	AD6-10
	13/32	AD4-6.5		11/16	AD6-11
	7/16	AD4-7		3/4	AD6-12
	1/2	AD4-8		13/16	AD6-13
	9/16	AD4-9		7/8	AD6-14
	5/8	AD4-10		15/16	AD6-15
	11/16	AD4-11		1	AD6-16
	3/4	AD4-12		1 - 1/8	AD6-18
	13/16	AD4-13		1 - 1/4	AD6-20
	7/8	AD4-14		1 - 1/2	AD6-24
	15/16	AD4-15	1/4	1/4	AD8-4
	1	AD4-16		5/16	AD8-5
	1 - 1/16	AD4-17		3/8	AD8-6
	1 - 1/8	AD4-18		7/16	AD8-7
	1 - 1/4	AD4-20		1/2	AD8-8
	1 - 3/8	AD4-22		5/8	AD8-10
	1 - 1/2	AD4-24		11/16	AD8-11
	1 - 3/4	AD4-28		3/4	AD8-12
				1 - 3/8	AD8-22
				2	AD8-32

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20470AD

Solid Rivet
2117-T4, Aluminum Alloy



MS20470 - Universal Head

Diameter	Length	MS20470	Diameter	Length	MS20470
3/32	1/8	AD3-2	5/32	1/8	AD5-2
	5/32	AD3-2.5		3/16	AD5-3
	3/16	AD3-3		7/32	AD5-3.5
	7/32	AD3-3.5		1/4	AD5-4
	1/4	AD3-4		9/32	AD5-4.5
	9/32	AD3-4.5		5/16	AD5-5
	5/16	AD3-5		11/32	AD5-5.5
	11/32	AD3-5.5		3/8	AD5-6
	3/8	AD3-6		13/32	AD5-6.5
	13/32	AD3-6.5		7/16	AD5-7
	7/16	AD3-7		15/32	AD5-7.5
	15/32	AD3-7.5		1/2	AD5-8
	1/2	AD3-8		9/16	AD5-9
	17/32	AD3-8.5		5/8	AD5-10
	9/16	AD3-9		11/16	AD5-11
	5/8	AD3-10		3/4	AD5-12
	11/16	AD3-11		7/8	AD5-13
	3/4	AD3-12		1	AD5-14
	7/8	AD3-14		1 - 1/8	AD5-16
	1	AD3-16		1 - 1/4	AD5-20
	1 - 1/4	AD3-20		1 - 3/8	AD5-22
1/8	1/8	AD4-2	3/16	3/16	AD6-3
	5/32	AD4-2.5		1/4	AD6-4
	3/16	AD4-3		5/16	AD6-5
	7/32	AD4-3.5		3/8	AD6-6
	1/4	AD4-4		7/16	AD6-7
	9/32	AD4-4.5		1/2	AD6-8
	5/16	AD4-5		9/16	AD6-9
	11/32	AD4-5.5		5/8	AD6-10
	3/8	AD4-6		11/16	AD6-11
	13/32	AD4-6.5		3/4	AD6-12
	7/16	AD4-7		13/16	AD6-13
	15/32	AD4-7.5		7/8	AD6-14
	1/2	AD4-8		15/16	AD6-15
	9/16	AD4-9		1	AD6-16
	5/8	AD4-10		1 - 1/8	AD6-18
	11/16	AD4-11		1 - 1/4	AD6-20
	3/4	AD4-12		1 - 1/2	AD6-24
	13/16	AD4-13	1/4	1/4	AD8-4
	7/8	AD4-14		5/16	AD8-5
	15/16	AD4-15		3/8	AD8-6
	1	AD4-16		7/16	AD8-7
	1 - 1/16	AD4-17		1/2	AD8-8
	1 - 1/8	AD4-18		9/16	AD8-9
	1 - 3/16	AD4-19		5/8	AD8-10
	1 - 1/4	AD4-20		3/4	AD8-12
	1 - 3/8	AD4-22		7/8	AD8-14
	1 - 1/2	AD4-24		1	AD8-16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20426D, MS20470D

Solid Rivet, 2017-T4 Aluminum Alloy





MS20426 100° FLUSH HEAD			MS20470 UNIVERSAL HEAD		
Diameter	Length	MS20426	Diameter	Length	MS20470
1/8	1/4	D4-4	1/8	1/4	D4-4
	5/16	D4-5		5/16	D4-5
	3/8	D4-6		3/8	D4-6
	7/16	D4-7		7/16	D4-7
	1/2	D4-8		1/2	D4-8
5/32	1/4	D5-4	5/32	1/4	D5-4
	5/16	D5-5		5/16	D5-5
	3/8	D5-6		3/8	D5-6
	7/16	D5-7		7/16	D5-7
	1/2	D5-8		1/2	D5-8
	9/16	D5-9		9/16	D5-9
	5/8	D5-10		5/8	D5-10
3/16	3/8	D6-6	3/16	3/8	D6-6
	7/16	D6-7		7/16	D6-7
	1/2	D6-8		1/2	D6-8
	9/16	D6-9		9/16	D6-9
	5/8	D6-10		5/8	D6-10

MS20426E, MS20470E

Solid Rivet, 7050-T73 Aluminum Alloy





MS20426 100° FLUSH HEAD			MS20470 UNIVERSAL HEAD		
Diameter	Length		Diameter	Length	MS20470
5/32	1/4	E5-4	5/32	1/4	E5-4
	5/16	E5-5		5/16	E5-5
	3/8	E5-6		3/8	E5-6
	7/16	E5-7		7/16	E5-7
	1/2	E5-8		1/2	E5-8
	5/8	E5-10		5/8	E5-10
3/16	1/4	E6-4	3/16	1/4	E6-4
	5/16	E6-5		5/16	E6-5
	3/8	E6-6		3/8	E6-6
	7/16	E6-7		7/16	E6-7
	1/2	E6-8		1/2	E6-8
	9/16	E6-9		9/16	E6-9
	5/8	E6-10		5/8	E6-10

NAS1200M



Solid Rivet, 100° Flush Shear Head, Monel

Diameter	Length	NAS1200
.125	.188	M4-3
	.250	M4-4
	.312	M4-5
	.375	M4-6
	.438	M4-7
	.500	M4-8
.156	.125	M5-2
	.188	M5-3
	.250	M5-4
	.312	M5-5
	.375	M5-6
	.438	M5-7
	.500	M5-8

NAS1097KE



100° Flush Shear Head, 7050-T73 Aluminum Alloy

Diameter	Length	NAS1097
.125	.250	KE4-4
	.312	KE4-5
	.375	KE4-6
.156	.188	KE5-3
	.250	KE5-4
	.312	KE5-5
	.375	KE5-6
	.438	KE5-7
	.500	KE5-8
	.250	KE6-4
.188	.312	KE6-5
	.375	KE6-6
	.438	KE6-7
	.500	KE6-8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20426A
MS20470A



Solid Rivet
Soft Rivet, 1100-F
Aluminum Alloy

Dia.	Length	MS20426 100°FLUSH HEAD	MS20470 UNIVERSAL HEAD
3/32	3/16	A3-3	A3-3
	1/4	A3-4	A3-4
	5/16	A3-5	A3-5
	3/8	A3-6	A3-6
	7/16	A3-7	A3-7
	1/2	A3-8	A3-8
	5/8	A3-10	A3-10
	3/4	A3-12	A3-12
1/8	3/16	A4-3	A4-3
	1/4	A4-4	A4-4
	5/16	A4-5	A4-5
	3/8	A4-6	A4-6
	7/16	A4-7	A4-7
	1/2	A4-8	A4-8
	9/16	A4-9	A4-9
	5/8	A4-10	A4-10
	3/4	A4-12	A4-12
	1	A4-16	A4-16
	1 - 1/4	A4-20	A4-20
5/32	3/16	A5-3	A5-3
	1/4	A5-4	A5-4
	5/16	A5-5	A5-5
	3/8	A5-6	A5-6
	7/16	A5-7	A5-7
	1/2	A5-8	A5-8
	9/16	A5-9	A5-9
	5/8	A5-10	A5-10
	3/4	A5-12	A5-12
	1	A5-16	A5-16
	1 - 1/4	A5-20	A5-20
3/16	1/4	A6-4	A6-4
	5/16	A6-5	A6-5
	3/8	A6-6	A6-6
	7/16	A6-7	A6-7
	1/2	A6-8	A6-8
	9/16	A6-9	A6-9
	5/8	A6-10	A6-10
	3/4	A6-12	A6-12
	1	A6-16	A6-16
1/4	1/4	A8-4	A8-4
	5/16	A8-5	A8-5
	3/8	A8-6	A8-6
	7/16	A8-7	A8-7
	1/2	A8-8	A8-8
	5/8	A8-10	A8-10

MS20426B
MS20470B



Solid Rivet
5056-H32
Aluminum Alloy

Dia.	Length	MS20426 100°FLUSH HEAD	MS20470 UNIVERSAL HEAD
3/32	3/16	B3-3	B3-3
	1/4	B3-4	B3-4
	5/16	B3-5	B3-5
	3/8	B3-6	B3-6
	7/16	B3-7	B3-7
	1/2	B3-8	B3-8
	9/16	B3-9	B3-9
	5/8	B3-10	B3-10
	3/4	B3-12	B3-12
	1	B3-16	B3-16
1/8	3/16	B4-3	B4-3
	1/4	B4-4	B4-4
	5/16	B4-5	B4-5
	3/8	B4-6	B4-6
	7/16	B4-7	B4-7
	1/2	B4-8	B4-8
	9/16	B4-9	B4-9
	5/8	B4-10	B4-10
	3/4	B4-12	B4-12
	1	B4-16	B4-16
5/32	1/4	B5-4	B5-4
	5/16	B5-5	B5-5
	3/8	B5-6	B5-6
	7/16	B5-7	B5-7
	1/2	B5-8	B5-8
	9/16	B5-9	B5-9
	5/8	B5-10	B5-10
	3/4	B5-12	B5-12
	7/8	B5-14	B5-14
3/16	1/4	B6-4	B6-4
	5/16	B6-5	B6-5
	3/8	B6-6	B6-6
	7/16	B6-7	B6-7
	1/2	B6-8	B6-8
	9/16	B6-9	B6-9
	5/8	B6-10	B6-10
	11/16	B6-11	B6-11
	3/4	B6-12	B6-12
	1	B6-16	B6-16
1/4	3/8	B8-6	B8-6
	7/16	B8-7	B8-7
	1/2	B8-8	B8-8
	5/8	B8-10	B8-10
	3/4	B8-12	B8-12

MS20615



Monel Rivet
Universal Head

Diameter	Length	MS20615
3/32	1/8	3M2
	3/16	3M3
	1/4	3M4
	5/16	3M5
	3/8	3M6
	7/16	3M7
	1/2	3M8
	9/16	3M9
	5/8	3M10
	3/4	3M12
1/8	1/8	4M2
	3/16	4M3
	1/4	4M4
	5/16	4M5
	3/8	4M6
	7/16	4M7
	1/2	4M8
	9/16	4M9
	5/8	4M10
	3/4	4M12
	7/8	4M14
	1	4M16
5/32	1/8	5M2
	3/16	5M3
	1/4	5M4
	5/16	5M5
	3/8	5M6
	7/16	5M7
	1/2	5M8
	9/16	5M9
	5/8	5M10
	3/4	5M12
	1	5M16
3/16	1/4	6M4
	5/16	6M5
	3/8	6M6
	7/16	6M7
	1/2	6M8
	5/8	6M10
	3/4	6M12
	7/8	6M14

MS20427F



Solid Rivet 100°Countersunk
Corrosion Resistant (F)

Diameter	Length	MS20427
3/32	3/16	F3-3
	1/4	F3-4
	5/16	F3-5
	3/8	F3-6
	7/16	F3-7
	1/2	F3-8
1/8	3/16	F4-3
	1/4	F4-4
	5/16	F4-5
	3/8	F4-6
	7/16	F4-7
	1/2	F4-8
5/32	3/8	F5-6
	7/16	F5-7
	1/2	F5-8

MS20427M



Solid Rivet 100° Countersunk
Monel (M)

Diameter	Length	MS20427
3/32	1/8	M3-2
	5/32	M3-2.5
	3/16	M3-3
	1/4	M3-4
	5/16	M3-5
	3/8	M3-6
	7/16	M3-7
	1/2	M3-8
1/8	1/8	M4-2
	3/16	M4-3
	1/4	M4-4
	5/16	M4-5
	3/8	M4-6
	7/16	M4-7
	1/2	M4-8
	9/16	M4-9
	5/8	M4-10
	3/4	M4-12
	1	M4-16
5/32	3/16	M5-3
	1/4	M5-4
	5/16	M5-5
	3/8	M5-6
	7/16	M5-7
	1/2	M5-8
	9/16	M5-9
	5/8	M5-10
	11/16	M5-11
	3/4	M5-12
	1	M5-16
3/16	5/16	M6-5
	3/8	M6-6
	7/16	M6-7
	1/2	M6-8
	5/8	M6-10
	3/4	M6-12
	1	M6-16

MS20613



Solid Rivet, Universal Head
Corrosion Resistant (C)
Carbon Steel (P)

Diameter	Length	MS20613
3/32	3/16	3C3
	1/4	3C4
	5/16	3C5
	3/8	3C6
	1/2	3C8
1/8	3/16	4C3
	1/4	4C4
	1/4	4P4
	5/16	4C5
	5/16	4P5
	3/8	4C6
	7/16	4P7
	1/2	4C8
	1/2	4P8
	9/16	4C9
5/32	5/16	5C5
	3/8	5C6
	1/2	5C8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1097AD



100° Flush Shear Head,
2117-T4 Aluminum Alloy

NAS1097AD 100° FLUSH SHEAR HEAD

Diameter	Length	NAS1097	Diameter	Length	NAS1097
.094	.125	AD3-2	.188	.125	AD6-2
	.188	AD3-3		.188	AD6-3
	.250	AD3-4		.250	AD6-4
	.312	AD3-5		.281	AD6-4.5
	.375	AD3-6		.312	AD6-5
	.438	AD3-7		.344	AD6-5.5
	.500	AD3-8		.375	AD6-6
	.562	AD3-9		.407	AD6-6.5
	.625	AD3-10		.438	AD6-7
	.750	AD3-12		.500	AD6-8
	1.00	AD3-16		.562	AD6-9
.125	.125	AD4-2		.625	AD6-10
	.188	AD4-3		.688	AD6-11
	.219	AD4-3.5		.750	AD6-12
	.250	AD4-4		.8125	AD6-13
	.281	AD4-4.5		.875	AD6-14
	.312	AD4-5		.938	AD6-15
	.344	AD4-5.5		1.00	AD6-16
	.375	AD4-6		1.250	AD6-20
	.407	AD4-6.5		1.500	AD6-24
	.438	AD4-7		1.750	AD6-28
	.500	AD4-8	.250	.250	AD8-4
	.562	AD4-9		.312	AD8-5
	.625	AD4-10		.375	AD8-6
	.6875	AD4-11		.438	AD8-7
	.750	AD4-12		.500	AD8-8
	.875	AD4-14		.562	AD8-9
	1.00	AD4-16		.625	AD8-10
	1.25	AD4-20		.688	AD8-11
.156	.125	AD5-2		.750	AD8-12
	.188	AD5-3		.813	AD8-13
	.219	AD5-3.5		.875	AD8-14
	.250	AD5-4		.938	AD8-15
	.281	AD5-4.5		1.00	AD8-16
	.312	AD5-5		1.25	AD8-20
	.344	AD5-5.5		--	--
	.375	AD5-6		--	--
	.407	AD5-6.5		--	--
	.438	AD5-7		--	--
	.500	AD5-8		--	--
	.562	AD5-9		--	--
	.625	AD5-10			
	.688	AD5-11			
	.750	AD5-12			
	1.00	AD5-16			
	1.25	AD5-20			

NAS1097D



100° Flush Shear Head,
2017-T4 Aluminum Alloy

NAS1097D 100° FLUSH SHEAR HEAD

Diameter	Length	NAS1097	Diameter	Length	NAS1097
.125	.250	D4-4	.188	.1875	D6-3
	.312	D4-5		.250	D6-4
	.375	D4-6		.312	D6-5
	.438	D4-7		.375	D6-6
	.500	D4-8		.438	D6-7
.156	.250	D5-4		.500	D6-8
	.312	D5-5		.562	D6-9
	.375	D5-6		.625	D6-10
	.438	D5-7		.750	D6-12
	.500	D5-8		1.00	D6-16

NAS1241



Solid Rivet
100° Flush Shear Head
2117-T4 Aluminum Alloy
MS20426 Repair

Diameter	Length	NAS1241
.140	.188	AD4-3
	.250	AD4-4
	.312	AD4-5
	.375	AD4-6
	.438	AD4-7
	.500	AD4-8
	.562	AD4-9
	.625	AD4-10
	.750	AD4-12
.172	.250	AD5-4
	.312	AD5-5
	.375	AD5-6
	.438	AD5-7
	.500	AD5-8
	.562	AD5-9
	.625	AD5-10
	.750	AD5-12
.219	.250	AD6-4
	.312	AD6-5
	.375	AD6-6
	.438	AD6-7
	.500	AD6-8
	.562	AD6-9
	.625	AD6-10
	.750	AD6-12

NAS1242



Solid Rivet
Universal Head
2117-T4 Aluminum Alloy
MS20470 Repair

Diameter	Length	NAS1242
.140	.188	AD4-3
	.250	AD4-4
	.312	AD4-5
	.375	AD4-6
	.438	AD4-7
	.500	AD4-8
	.562	AD4-9
	.625	AD4-10
	.750	AD4-12
.172	.188	AD5-3
	.250	AD5-4
	.312	AD5-5
	.375	AD5-6
	.438	AD5-7
	.500	AD5-8
	.562	AD5-9
	.625	AD5-10
	.750	AD5-12
.219	.250	AD6-4
	.312	AD6-5
	.375	AD6-6
	.438	AD6-7
	.500	AD6-8
	.562	AD6-9
	.625	AD6-10
	.750	AD6-12

S4579428AD *(McDonnell Part #)*
AF138AD *(Allfast Part #)*



100° Crown Flush Shear Head
2117-T4 Aluminum Alloy

Diameter	Length	Part Number	Allfast P/N	Diameter	Length	Part Number	Allfast P/N
.094	.250	S4579428AD3-4	AF138AD3-4	.156	.188	S4579428AD5-3	AF138AD5-3
	.312	S4579428AD3-5	AF138AD3-5		.250	S4579428AD5-4	AF138AD5-4
	.375	S4579428AD3-6	AF138AD3-6		.312	S4579428AD5-5	AF138AD5-5
	.500	S4579428AD3-8	AF138AD3-8		.375	S4579428AD5-6	AF138AD5-6
.125	.188	S4579428AD4-3	AF138AD4-3		.438	S4579428AD5-7	AF138AD5-7
	.250	S4579428AD4-4	AF138AD4-4		.500	S4579428AD5-8	AF138AD5-8
	.312	S4579428AD4-5	AF138AD4-5		.562	S4579428AD5-9	AF138AD5-9
	.375	S4579428AD4-6	AF138AD4-6		.625	S4579428AD5-10	AF138AD5-10
	.438	S4579428AD4-7	AF138AD4-7	.188	.188	S4579428AD6-3	AF138AD6-3
	.500	S4579428AD4-8	AF138AD4-8		.250	S4579428AD6-4	AF138AD6-4
	.562	S4579428AD4-9	AF138AD4-9		.312	S4579428AD6-5	AF138AD6-5
	.625	S4579428AD4-10	AF138AD4-10		.375	S4579428AD6-6	AF138AD6-6
					.438	S4579428AD6-7	AF138AD6-7
					.500	S4579428AD6-8	AF138AD6-8
					.562	S4579428AD6-9	AF138AD6-9
					.625	S4579428AD6-10	AF138AD6-10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

RIVETS PER POUND REFERENCE TABLE

MS20426 (Aluminum) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	5500	4900	4025	3420	2975	2635	2360	2140	1950	1800	1735	1555	1460	1370
4	3077	2754	2265	1930	1675	1485	1330	1200	1100	1000	940	875	820	775
5	1850	1670	1390	1190	1040	925	830	755	690	640	595	555	520	490
6	1200	1090	910	790	700	620	560	510	465	430	404	375	350	330

MS20470 (Aluminum) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	4460	4040	3435	2990	2645	2375	2150	1960	1800	1680	1575	1460	1380	1300
4	2240	2065	1780	1565	1390	1260	1145	1055	970	900	850	790	745	700
5	1300	1210	1050	935	840	760	690	645	600	550	500	490	465	440
6	880	745	700	630	570	520	475	440	400	380	350	335	315	300

MS20427 (Monel) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1925	1510	1230	1045	905	800	720	650	595	550	500	475	445	420
4	1075	845	690	590	510	450	405	365	335	310	285	265	245	220
5	660	520	430	370	325	285	255	230	210	195	180	165	158	148
6	450	360	297	254	220	195	176	160	145	135	125	117	110	100

MS20615 (Monel) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1370	1170	980	860	750	675	610	565	525	490	460	430	405	380
4	660	565	490	435	390	365	325	300	280	260	245	230	215	205
5	375	325	290	255	235	215	195	182	170	160	150	140	133	126
6	230	203	182	165	151	138	128	118	112	105	100	95	90	81

MS20427 (Corrosion Resistant) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	2175	1705	1390	1180	1020	905	815	735	670	620	570	535	500	475
4	1215	955	780	665	575	510	480	410	375	350	320	300	280	255
5	745	585	485	420	365	320	285	260	240	220	205	190	180	167
6	510	405	335	285	250	220	200	180	165	153	141	132	125	116

MS20613 (Corrosion Resistant) **LENGTH**

Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1550	1320	1100	970	855	760	690	640	595	555	520	485	455	430
4	745	640	555	490	440	400	365	340	315	295	278	259	245	230
5	425	385	325	292	265	240	223	206	192	180	168	159	150	142
6	261	229	209	186	171	156	145	133	127	119	112	105	100	95

NAS1097 (Aluminum) **LENGTH**

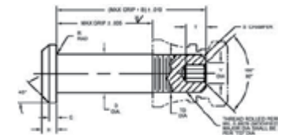
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	5900	5300	4430	3765	3275	2900	2600	2355	2160	2000	1910	1710	1600	1510
4	3375	3030	2495	2120	1845	1630	1465	1320	1210	1120	1038	965	900	850
5	2045	1845	1530	1310	1145	1020	915	830	765	705	655	610	570	540
6	1330	1200	1010	870	765	680	610	560	515	475	440	415	390	365

THE ABOVE QUANTITIES ARE FOR YOUR CONVENIENCE AND ARE APPROXIMATED

HL18 HI-LOK

Protruding Shear Head
95,000 PSI Shear MIN
160,000 - 180,000 PSI,
Tensile Strength, Alloy Steel





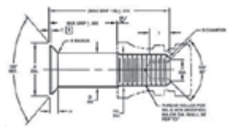
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.312	.1635 .1625	.1595 .1570	.020	.047 .037	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.025	.055 .045	10-32-UNJF-3A Modified	5,380	2,500
-8	1/4	.412 .387	.395	.2495 .2485	.2440 .2410	.030	.069 .059	1/4-28UNJF-3A Modified	9,300	4,300

Max Grip	8-32 Thread 5/32 Nominal Diameter HL18PB5-#	10-32 Thread 3/16 Nominal Diameter HL18PB6-#	1/4-28 Thread 1/4 Nominal Diameter HL18PB8-#
1/8	HL18PB5-2	HL18PB6-2	HL18PB8-2
3/16	HL18PB5-3	HL18PB6-3	HL18PB8-3
1/4	HL18PB5-4	HL18PB6-4	HL18PB8-4
5/16	HL18PB5-5	HL18PB6-5	HL18PB8-5
3/8	HL18PB5-6	HL18PB6-6	HL18PB8-6
7/16	HL18PB5-7	HL18PB6-7	HL18PB8-7
1/2	HL18PB5-8	HL18PB6-8	HL18PB8-8
9/16	HL18PB5-9	HL18PB6-9	HL18PB8-9
5/8	HL18PB5-10	HL18PB6-10	HL18PB8-10
11/16	HL18PB5-11	HL18PB6-11	HL18PB8-11
3/4	HL18PB5-12	HL18PB6-12	HL18PB8-12
13/16	HL18PB5-13	HL18PB6-13	HL18PB8-13
7/8	HL18PB5-14	HL18PB6-14	HL18PB8-14
15/16	HL18PB5-15	HL18PB6-15	HL18PB8-15
1	HL18PB5-16	HL18PB6-16	HL18PB8-16

HL19 HI-LOK

100⁰ Flush Shear Head
95,000 PSI Shear MIN
160,000 - 180,000 PSI,
Tensile Strength, Alloy Steel





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2612 .2564	.312	.1635 .1625	.1595 .1570	.0410 .0390	8-32UNJC-3A Modified	4,010	1,290
-6	3/16	.3016 .2966	.325	.1895 .1885	.1840 .1810	.0470 .0450	10-32-UNJF-3A Modified	5,380	2,000
-8	1/4	.3948 .3898	.395	.2495 .2485	.2440 .2410	.0610 .0590	1/4-28UNJF-3A Modified	9,300	3,700

Max Grip	8-32 Thread 5/32 Nominal Diameter HL19PB5-#	10-32 Thread 3/16 Nominal Diameter HL19PB6-#	1/4-28 Thread 1/4 Nominal Diameter HL19PB8-#
1/8	HL19PB5-2	HL19PB6-2	HL19PB8-2
3/16	HL19PB5-3	HL19PB6-3	HL19PB8-3
1/4	HL19PB5-4	HL19PB6-4	HL19PB8-4
5/16	HL19PB5-5	HL19PB6-5	HL19PB8-5
3/8	HL19PB5-6	HL19PB6-6	HL19PB8-6
7/16	HL19PB5-7	HL19PB6-7	HL19PB8-7
1/2	HL19PB5-8	HL19PB6-8	HL19PB8-8
9/16	HL19PB5-9	HL19PB6-9	HL19PB8-9
5/8	HL19PB5-10	HL19PB6-10	HL19PB8-10
11/16	HL19PB5-11	HL19PB6-11	HL19PB8-11
3/4	HL19PB5-12	HL19PB6-12	HL19PB8-12
13/16	HL19PB5-13	HL19PB6-13	HL19PB8-13
7/8	HL19PB5-14	HL19PB6-14	HL19PB8-14
15/16	HL19PB5-15	HL19PB6-15	HL19PB8-15

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL20 HI-LOK

Protruding Tension Head
160,000 - 180,000 PSI
Tensile Strength
Alloy Steel



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.322 .306	.312	.1635 .1625	.1595 .1570	.030	.060 .055	8-32UNJC-3A Modified	4,010	2,180
-6	3/16	.377 .357	.325	.1895 .1885	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	5,380	3,180
-8	1/4	.440 .415	.395	.2495 .2485	.2440 .2410	.045	.090 .077	1/4-28UNJF-3A Modified	9,300	5,820

Max Grip	8-32 Thread 5/32 Nominal Diameter HL20PB5-#	10-32 Thread 3/16 Nominal Diameter HL20PB6-#	1/4-28 Thread 1/4 Nominal Diameter HL20PB8-#
1/8	HL20PB5-2	HL20PB6-2	HL20PB8-2
3/16	HL20PB5-3	HL20PB6-3	HL20PB8-3
1/4	HL20PB5-4	HL20PB6-4	HL20PB8-4
5/16	HL20PB5-5	HL20PB6-5	HL20PB8-5
3/8	HL20PB5-6	HL20PB6-6	HL20PB8-6
7/16	HL20PB5-7	HL20PB6-7	HL20PB8-7
1/2	HL20PB5-8	HL20PB6-8	HL20PB8-8
9/16	HL20PB5-9	HL20PB6-9	HL20PB8-9
5/8	HL20PB5-10	HL20PB6-10	HL20PB8-10
11/16	HL20PB5-11	HL20PB6-11	HL20PB8-11
3/4	HL20PB5-12	HL20PB6-12	HL20PB8-12
13/16	HL20PB5-13	HL20PB6-13	HL20PB8-13
7/8	HL20PB5-14	HL20PB6-14	HL20PB8-14
15/16	HL20PB5-15	HL20PB6-15	HL20PB8-15

HL21 HI-LOK

100⁰ Flush Tension Head
160,000 - 180,000 PSI,
Tensile Strength
Alloy Steel



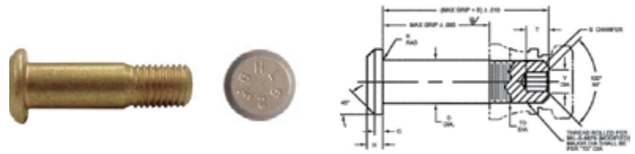
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.3304 .3256	.312	.1635 .1625	.1595 .1570	.0700 .0680	8-32UNJC-3A Modified	4,010	2,180
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32-UNJF-3A Modified	5,380	3,180
-8	1/4	.5066 .5018	.395	.2495 .2485	.2440 .2410	.1080 .1060	1/4-28UNJF-3A Modified	9,300	5,820

Max Grip	8-32 Thread 5/32 Nominal Diameter HL21PB5-#	10-32 Thread 3/16 Nominal Diameter HL21PB6-#	1/4-28 Thread 1/4 Nominal Diameter HL21PB8-#
1/8	HL21PB5-2	HL21PB6-2	HL21PB8-2
3/16	HL21PB5-3	HL21PB6-3	HL21PB8-3
1/4	HL21PB5-4	HL21PB6-4	HL21PB8-4
5/16	HL21PB5-5	HL21PB6-5	HL21PB8-5
3/8	HL21PB5-6	HL21PB6-6	HL21PB8-6
7/16	HL21PB5-7	HL21PB6-7	HL21PB8-7
1/2	HL21PB5-8	HL21PB6-8	HL21PB8-8
9/16	HL21PB5-9	HL21PB6-9	HL21PB8-9
5/8	HL21PB5-10	HL21PB6-10	HL21PB8-10
11/16	HL21PB5-11	HL21PB6-11	HL21PB8-11
3/4	HL21PB5-12	HL21PB6-12	HL21PB8-12
13/16	HL21PB5-13	HL21PB6-13	HL21PB8-13
7/8	HL21PB5-14	HL21PB6-14	HL21PB8-14

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL62 HI-LOK

Protruding Shear Head
1/64 Oversize for HL18
Alloy Steel
160,000 - 180,000
PSI Tensile Strength

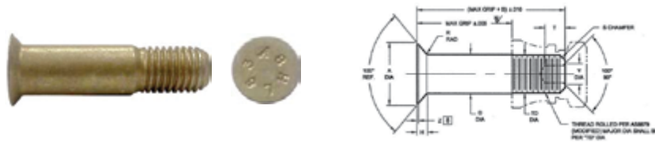


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Dia.	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5					NOTE: Use HL18PB6						
-6	13/64	.315 .295	.325	.2026 .2016	.1840 .1810	.025	.055 .045	.025 .015	10-32-UNJF-3A Modified	6,130	2,500
-8	17/64	.412 .387	.395	.2651 .2641	.2440 .2410	.030	.069 .059	.025 .015	1/4-28UNJF-3A Modified	10,490	4,300

Max Grip	10-32 Thread 13/64 Nominal Diameter HL62PB6-#	1/4-28 Thread 17/64 Nominal Diameter HL62PB8-#
1/8	HL62PB6-2	HL62PB8-2
3/16	HL62PB6-3	HL62PB8-3
1/4	HL62PB6-4	HL62PB8-4
5/16	HL62PB6-5	HL62PB8-5
3/8	HL62PB6-6	HL62PB8-6
7/16	HL62PB6-7	HL62PB8-7
1/2	HL62PB6-8	HL62PB8-8
9/16	HL62PB6-9	HL62PB8-9
5/8	HL62PB6-10	HL62PB8-10
11/16	HL62PB6-11	HL62PB8-11
3/4	HL62PB6-12	HL62PB8-12
13/16	HL62PB6-13	HL62PB8-13
7/8	HL62PB6-14	HL62PB8-14
15/16	HL62PB6-15	HL62PB8-15
1	HL62PB6-16	HL62PB8-16

HL63 HI-LOK

100⁰ Flush Shear Head
1/64 Oversize for HL19
95,000 PSI Shear MIN.
Alloy Steel, 160,000 - 180,000
PSI Tensile Strength



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Dia.	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5					NOTE: Use HL19PB6						
-6	13/64	.3016 .2966	.325	.2026 .2016	.1840 .1810	.035	.074 .064	.025 .015	10-32-UNJF-3A Modified	6,130	2,000
-8	17/64	.3948 .3898	.395	.2651 .2641	.2440 .2410	.045	.080 .077	.025 .015	1/4-28UNJF-3A Modified	10,490	3,700

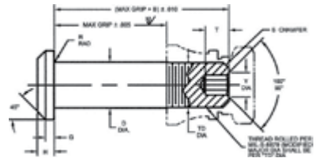
Max Grip	10-32 Thread 13/64 Nominal Diameter HL63PB6-#	1/4-28 Thread 17/64 Nom. Dia. HL63PB8-#
1/8	HL63PB6-2	HL63PB8-2
3/16	HL63PB6-3	HL63PB8-3
1/4	HL63PB6-4	HL63PB8-4
5/16	HL63PB6-5	HL63PB8-5
3/8	HL63PB6-6	HL63PB8-6
7/16	HL63PB6-7	HL63PB8-7
1/2	HL63PB6-8	HL63PB8-8
9/16	HL63PB6-9	HL63PB8-9
5/8	HL63PB6-10	HL63PB8-10
11/16	HL63PB6-11	HL63PB8-11
3/4	HL63PB6-12	HL63PB8-12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL64 HI-LOK

Protruding Tension Head
1/64 Oversize for HL20
Alloy Steel
160,000 - 180,000
PSI Tensile Strength





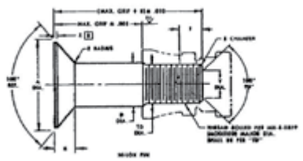
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5					NOTE: Use HL20PB6					
-6	13/64	.377 .357	.325	.2026 .2016	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	6,130	3,180
-8	17/64	.440 .415	.395	.2651 .2641	.2440 .2410	.045	.090 .077	1/4-28UNJF-3A Modified	10,490	5,820

Max Grip	10-32 Thread 13/64 Nominal Diameter HL64PB6-#	1/4-28 Thread 17/64 Nominal Diameter HL64PB8-#
1/8	HL64PB6-2	HL64PB8-2
3/16	HL64PB6-3	HL64PB8-3
1/4	HL64PB6-4	HL64PB8-4
5/16	HL64PB6-5	HL64PB8-5
3/8	HL64PB6-6	HL64PB8-6
7/16	HL64PB6-7	HL64PB8-7
1/2	HL64PB6-8	HL64PB8-8
9/16	HL64PB6-9	HL64PB8-9
5/8	HL64PB6-10	HL64PB8-10
11/16	HL64PB6-11	HL64PB8-11
3/4	HL64PB6-12	HL64PB8-12
13/16	HL64PB6-13	HL64PB8-13
7/8	HL64PB6-14	HL64PB8-14

HL65 HI-LOK

100⁰ Flush Tension Head
1/64 Oversize for HL21
Alloy Steel
160,000 - 180,000
PSI Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5					NOTE: Use HL21PB6				
-6	13/64	.3813 .3765	.325	.2026 .2016	.1840 .1810	.0750 .0730	10-32-UNJF-3A Modified	6,130	3,180
-8	17/64	.5066 .5018	.395	.2651 .2641	.2440 .2410	.1013 .0993	1/4-28UNJF-3A Modified	10,490	5,820

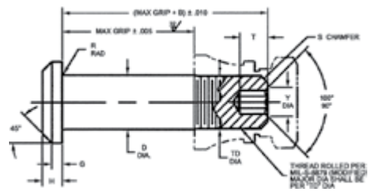
Max Grip	10-32 Thread 13/64 Nominal Diameter HL65PB6-#	1/4-28 Thread 17/64 Nominal Diameter HL65PB8-#
1/8	HL65PB6-2	HL65PB8-2
3/16	HL65PB6-3	HL65PB8-3
1/4	HL65PB6-4	HL65PB8-4
5/16	HL65PB6-5	HL65PB8-5
3/8	HL65PB6-6	HL65PB8-6
7/16	HL65PB6-7	HL65PB8-7
1/2	HL65PB6-8	HL65PB8-8
9/16	HL65PB6-9	HL65PB8-9
5/8	HL65PB6-10	HL65PB8-10
11/16	HL65PB6-11	HL65PB8-11
3/4	HL65PB6-12	HL65PB8-12
13/16	HL65PB6-13	HL65PB8-13

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL218 HI-LOK

Protruding Shear Head
1/32 Oversize for HL18
95,000 PSI Shear
160,000 - 180,000 PSI
Tensile Strength





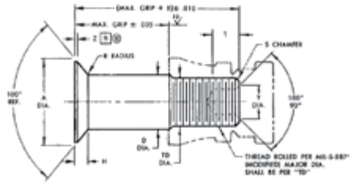
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Rad.	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64				NOTE: Use HL62PB6						
-6	7/32	.315 .295	.325	.2182 .2172	.1840 .1810	.025	.055 .045	.025 .015	10-32-UNJF-3A Modified	7,100	2,500
-8	9/32	.412 .387	.395	.2807 .2797	.2440 .2410	.030	.069 .059	.025 .015	1/4-28UNJF-3A Modified	11,800	4,300

Max Grip	10/32 Thread 7/32 Nominal Diameter HL218-6-#	1/4-28 Thread 9/32 Nominal Diameter HL218-8-#
3/16	HL218-6-3	HL218-8-3
1/4	HL218-6-4	HL218-8-4
5/16	HL218-6-5	HL218-8-5
3/8	HL218-6-6	HL218-8-6
7/16	HL218-6-7	HL218-8-7
1/2	HL218-6-8	HL218-8-8
9/16	HL218-6-9	HL218-8-9
5/8	HL218-6-10	HL218-8-10
11/16	HL218-6-11	HL218-8-11
3/4	HL218-6-12	HL218-8-12

HL219 HI-LOK

100⁰ Flush Shear Head
1/32 Oversize for HL19
95,000 PSI Shear
160,000 - 180,000 PSI
Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64				NOTE: Use HL63PB6				
-6	7/32	.3303 .3253	.325	.2182 .2172	.1840 .1810	.0470 .0449	10-32-UNJF-3A Modified	7,100	2,000
-8	9/32	.4260 .4210	.395	.2807 .2797	.2440 .2410	.0610 .0589	1/4-28UNJF-3A Modified	11,800	3,700

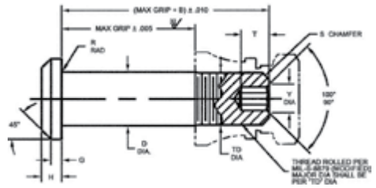
Max Grip	10-32 Thread 7/32 Nominal Diameter HL219-6-#	1/4-28 Thread 9/32 Nominal Diameter HL219-8-#
3/16	HL219-6-3	HL219-8-3
1/4	HL219-6-4	HL219-8-4
5/16	HL219-6-5	HL219-8-5
3/8	HL219-6-6	HL219-8-6
7/16	HL219-6-7	HL219-8-7
1/2	HL219-6-8	HL219-8-8
9/16	HL219-6-9	HL219-8-9
5/8	HL219-6-10	HL219-8-10
11/16	HL219-6-11	HL219-8-11
3/4	HL219-6-12	HL219-8-12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL220 HI-LOK

Protruding Tension Head
1/32 Oversize for HL20
95,000 PSI Shear
160,000 - 180,000 PSI
Tensile Strength





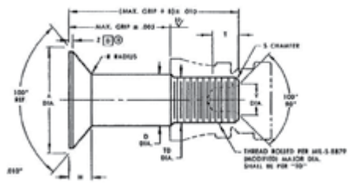
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64				NOTE: Use HL64PB6					
-6	7/32	.390 .370	.325	.2182 .2172	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	7,100	3,180
-8	9/32	.460 .435	.395	.2807 .2797	.2440 .2410	.045	.090 .077	1/4-28UNJF-3A Modified	11,800	5,820

Max Grip	10-32 Thread 7/32 Nominal Diameter HL220-6-#	1/4-28 Thread 9/32 Nominal Diameter HL220-8-#
3/16	HL220-6-3	HL220-8-3
1/4	HL220-6-4	HL220-8-4
5/16	HL220-6-5	HL220-8-5
3/8	HL220-6-6	HL220-8-6
7/16	HL220-6-7	HL220-8-7
1/2	HL220-6-8	HL220-8-8
9/16	HL220-6-9	HL220-8-9
5/8	HL220-6-10	HL220-8-10
11/16	HL220-6-11	HL220-8-11
3/4	HL220-6-12	HL220-8-12

HL221 HI-LOK

100⁰ Flush Tension Head
1/32 Oversize for HL21
95,000 PSI Shear
160,000 - 180,000 PSI
Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64				NOTE: Use HL65PB6				
-6	7/32	.3813 .3765	.325	.2182 .2172	.1840 .1810	.0684 .0664	10-32-UNJF-3A Modified	7,100	3,180
-8	9/32	.5066 .5018	.395	.2807 .2797	.2440 .2410	.0948 .0928	1/4-28UNJF-3A Modified	11,800	5,820

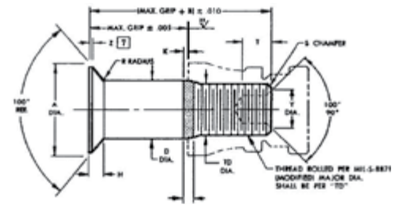
Max Grip	10-32 Thread 7/32 Nominal Diameter HL221-6-#	1/4-28 Thread 9/32 Nominal Diameter HL221-8-#
3/16	HL221-6-3	HL221-8-3
1/4	HL221-6-4	HL221-8-4
5/16	HL221-6-5	HL221-8-5
3/8	HL221-6-6	HL221-8-6
7/16	HL221-6-7	HL221-8-7
1/2	HL221-6-8	HL221-8-8
9/16	HL221-6-9	HL221-8-9
5/8	HL221-6-10	HL221-8-10
11/16	HL221-6-11	HL221-8-11
3/4	HL221-6-12	HL221-8-12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL325 HI-LOK

100⁰ Flush Shear Head
MS20426 Head Style
Interference Application
180,000 - 200,000
PSI Tensile Strength





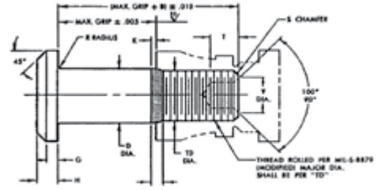
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	F	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.2922 .2874	.312	.1650 .1640	.1595 .1570	.004	.0534 .0514	8-32UNJC-3A Modified	4,560	2,100	-2
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.005	.0688 .0667	10-32-UNJF-3A Modified	6,100	3,100	-3

Max Grip	8-32 Thread 5/32 Nominal Diameter HL325-5-#	10-32 Thread 3/16 Nominal Diameter HL325-6-#
1/8	HL325-5-2	HL325-6-2
3/16	HL325-5-3	HL325-6-3
1/4	HL325-5-4	HL325-6-4
5/16	HL325-5-5	HL325-6-5
3/8	HL325-5-6	HL325-6-6
7/16	HL325-5-7	HL325-6-7
1/2	HL325-5-8	HL325-6-8
9/16	HL325-5-9	HL325-6-9
5/8	HL325-5-10	HL325-6-10

HL326 HI-LOK

Protruding Tension Head
Interference Application
160,000 - 180,000 PSI
Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.322 .306	.312	.1650 .1640	.1595 .1570	.030	.065 .055	8-32UNJC-3A Modified	4,010	2,180	-2
-6	3/16	.377 .357	.325	.1895 .1885	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	5,380	2,750	-2

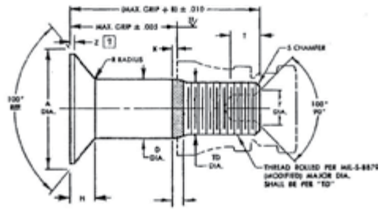
Max Grip	8-32 Thread 5/32 Nominal Diameter HL326-5-#	10-32 Thread 3/16 Nominal Diameter HL326-6-#
1/8	HL326-5-2	HL326-6-2
3/16	HL326-5-3	HL326-6-3
1/4	HL326-5-4	HL326-6-4
5/16	HL326-5-5	HL326-6-5
3/8	HL326-5-6	HL326-6-6
7/16	HL326-5-7	HL326-6-7
1/2	HL326-5-8	HL326-6-8
9/16	HL326-5-9	HL326-6-9
5/8	HL326-5-10	HL326-6-10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL327 HI-LOK

100⁰ Flush Tension Head
MS24694 Head Style
Interference Application
160,000 - 180,000 PSI
Tensile Strength





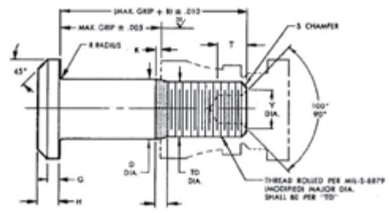
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.3304 .3256	.312	.1650 .1640	.1595 .1570	.0694 .0674	8-32UNJC-3A Modified	4,010	2,180	-2
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32-UNJF-3A Modified	5,380	2,750	-3

Max Grip	8-32 Thread 5/32 Nominal Diameter HL327-5-#	10-32 Thread 3/16 Nominal Diameter HL327-6-#
3/16	HL327-5-3	HL327-6-3
1/4	HL327-5-4	HL327-6-4
5/16	HL327-5-5	HL327-6-5
3/8	HL327-5-6	HL327-6-6
7/16	HL327-5-7	HL327-6-7
1/2	HL327-5-8	HL327-6-8
9/16	HL327-5-9	HL327-6-9
5/8	HL327-5-10	HL327-6-10

HL328 HI-LOK

Protruding Shear Head
Interference Application
108,000 PSI Shear Min
180,000 - 200,000 PSI
Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.262 .242	.312	.1650 .1640	.1595 .1570	.020	.047 .037	8-32UNJC-3A Modified	4,580	2,200	-2
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.025	.055 .045	10-32-UNJF-3A Modified	6,100	2,900	-2

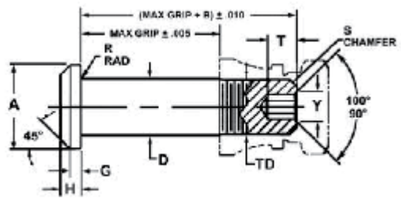
Max Grip	8-32 Thread 5/32 Nominal Diameter HL327-5-#	10-32 Thread 3/16 Nominal Diameter HL328-6-#
1/8	HL328-5-2	HL328-6-2
3/16	HL328-5-3	HL328-6-3
1/4	HL328-5-4	HL328-6-4
5/16	HL328-5-5	HL328-6-5
3/8	HL328-5-6	HL328-6-6
7/16	HL328-5-7	HL328-6-7
1/2	HL328-5-8	HL328-6-8
9/16	HL328-5-9	HL328-6-9
5/8	HL328-5-10	HL328-6-10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL22 HI-LOK

Protruding Shear Head
Aluminum Alloy
45,000 PSI Shear Strength





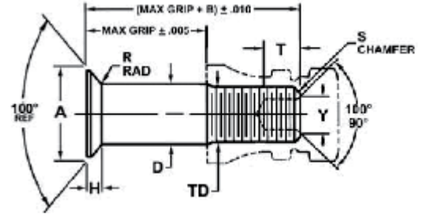
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.312	.1635 .1625	.1595 .1570	.030	.060 .045	8-32UNJC-3A Modified	1760	940
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.035	.074 .055	10-32-UNJF-3A Modified	2540	1240

Max Grip	8-32 Thread 5/32 Nominal Diameter HL22-5-#	10-32 Thread 3/16 Nominal Diameter HL22-6-#
1/8	HL22-5-2	HL22-6-2
3/16	HL22-5-3	HL22-6-3
1/4	HL22-5-4	HL22-6-4
5/16	HL22-5-5	HL22-6-5
3/8	HL22-5-6	HL22-6-6
7/16	HL22-5-7	HL22-6-7
1/2	HL22-5-8	HL22-6-8
9/16	HL22-5-9	HL22-6-9
5/8	HL22-5-10	HL22-6-10

HL23 HI-LOK

100⁰ Flush Shear Head
Aluminum Alloy
45,000 PSI Shear Strength



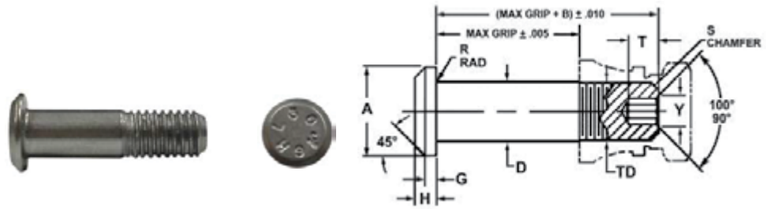


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2922 .2874	.312	.1635 .1625	.1595 .1570	.0540 .0520	8-32UNJC-3A Modified	1700	860
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.0688 .0667	10-32-UNJF-3A Modified	2540	1150

Max Grip	8-32 Thread 5/32 Nominal Diameter HL23-5-#	10-32 Thread 3/16 Nominal Diameter HL23-6-#
1/8	HL23-5-2	HL23-5-2
3/16	HL23-5-3	HL23-5-3
1/4	HL23-5-4	HL23-5-4
5/16	HL23-5-5	HL23-5-5
3/8	HL23-5-6	HL23-5-6
7/16	HL23-5-7	HL23-5-7
1/2	HL23-5-8	HL23-5-8
9/16	HL23-5-9	HL23-5-9
5/8	HL23-5-10	HL23-5-10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL30 HI-LOK

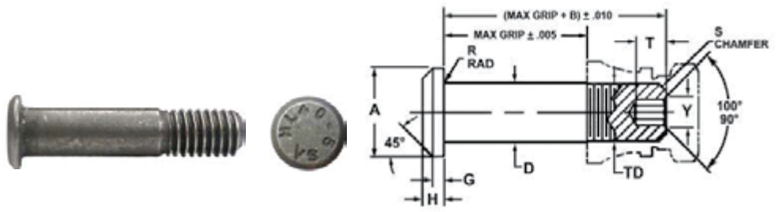


Protruding Shear Head
431 Stainless Steel

First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.262 .242	.325	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32	5,280	2,000
-6	3/16	.315 .295	.325	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	10-32	7,060	3,000

Max Grip	8-32 Thread 5/32" Nominal Diameter HL30-5-#	10-32 Thread 3/16" Nominal Diameter HL30-6-#
1/8	HL30-5-2	HL30-6-2
3/16	HL30-5-3	HL30-6-3
1/4	HL30-5-4	HL30-6-4
5/16	HL30-5-5	HL30-6-5
3/8	HL30-5-6	HL30-6-6

HL40 HI-LOK



Protruding Shear Head
A-286 High Temp Alloy
1/16th Grip Variation

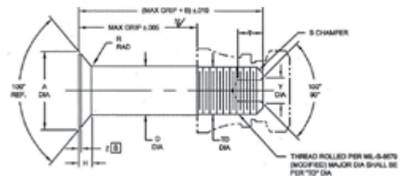
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-4	1/8	.240 .225	.294	.1375 .1370	.1375 .1365	.1335 .1310	.020	.042 .032	6-32	2,840	1,350
-5	5/32	.262 .242	.312	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32	4,010	1,940
-6	3/16	.315 .295	.325	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	10-32	5,380	2,500

Max Grip	6-32 Thread 1/8" Nominal Diameter HL40-4-#	8-32 Thread 5/32" Nominal Diameter HL40-5-#	10-32 Thread 3/16" Nominal Diameter HL40-6-#
1/8	HL40-4-2	HL40-5-2	HL40-6-2
3/16	HL40-4-3	HL40-5-3	HL40-6-3
1/4	HL40-4-4	HL40-5-4	HL40-6-4
5/16	HL40-4-5	HL40-5-5	HL40-6-5
3/8	HL40-4-6	HL40-5-6	HL40-6-6
7/16	HL40-4-7	HL40-5-7	HL40-6-7
1/2	HL40-4-8	HL40-5-8	HL40-6-8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL41 HI-LOK





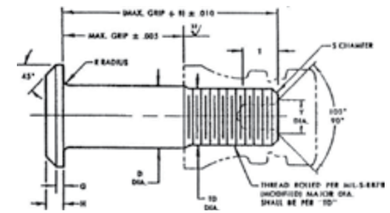
100° Flush Shear Head
A-286 High Temp Alloy
95,000 PSI Shear Min.

First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube					
-4	1/8	.2219 .2171	.294	.1375 .1370	.1375 .1365	.1335 .1310	.0354 .0334	6-32	2,840	950
-5	5/32	.2612 .2564	.312	.1635 .1630	.1635 .1625	.1595 .1570	.0410 .0390	8-32	4,010	1,750
-6	3/16	.3016 .2966	.325	.1895 .1890	.1895 .1885	.1840 .1810	.0470 .0449	10-32	5,380	2,000

Max Grip	6-32 Thread 1/8" Nominal Diameter HL41-4-#	8-32 Thread 5/32" Nominal Diameter HL41-5-#	10-32 Thread 3/16" Nominal Diameter HL41-6-#
1/8	---	HL41-5-2	HL41-6-2
3/16	HL41-4-3	HL41-5-3	HL41-6-3
1/4	HL41-4-4	HL41-5-4	HL41-6-4
5/16	HL41-4-5	HL41-5-5	HL41-6-5
3/8	HL41-4-6	HL41-5-6	HL41-6-6
7/16	HL41-4-7	HL41-5-7	HL41-6-7
1/2	HL41-4-8	HL41-5-8	HL41-6-8
9/16	HL41-4-9	HL41-5-9	HL41-6-9
5/8	HL41-4-10	HL41-5-10	HL41-6-10
11/16	HL41-4-11	HL41-5-11	HL41-6-11
3/4	HL41-4-12	HL41-5-12	HL41-6-12
13/16	HL41-4-13	HL41-5-13	HL41-6-13
7/8	HL41-4-14	HL41-5-14	HL41-6-14
15/16	---	HL41-5-15	HL41-6-15

HL48 HI-LOK





Protruding Shear Head
A-286 High Temp Alloy
1/16th Grip Variation

First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.322 .308	.312	.1635 .1630	.1635 .1625	.1595 .1570	.030	.060 .055	8-32	4,010	2,180
-6	3/16	.377 .357	.325	.1895 .1890	.1895 .1885	.1840 .1810	.035	.074 .084	10-32	5,380	3,180

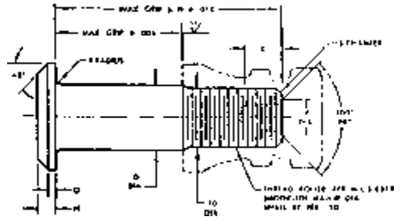
Max Grip	8-32 Thread 5/32" Nominal Diameter HL48-5-#	10-32 Thread 3/16" Nominal Diameter HL48-6-#
1/8	HL48-5-2	HL48-6-2
3/16	HL48-5-3	HL48-6-3
1/4	HL48-5-4	HL48-6-4
5/16	HL48-5-5	HL48-6-5
3/8	HL48-5-6	HL48-6-6

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL50 HI-LOK

Protruding Shear Head
Alloy Steel, 3/32 Grip Variation
95,000 PSI Shear Min.
160,000 - 180,000
PSI Tensile Strength





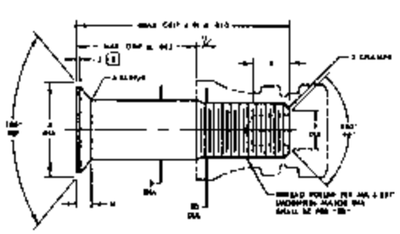
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.342	.1635 .1625	.1595 .1570	.047 .037	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.355	.1895 .1885	.1840 .1810	.055 .045	10-32-UNJF-3A Modified	5,380	2,500

Max Grip	8-32 Thread 5/32 Nominal Diameter HL50-5-#	10-32 Thread 3/16 Nominal Diameter HL50-6-#
1/8	HL50-5-2	HL50-6-2
3/16	HL50-5-3	HL50-6-3
1/4	HL50-5-4	HL50-6-4
5/16	HL50-5-5	HL50-6-5
3/8	HL50-5-6	HL50-6-6
7/16	HL50-5-7	HL50-6-7
1/2	HL50-5-8	HL50-6-8
9/16	HL50-5-9	HL50-6-9

HL51 HI-LOK

100° Reduced Flush Shear
Alloy Steel, 3/32 Grip Variation
95,000 PSI Shear Min.
160,000 - 180,000
PSI Tensile Strength





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2612 .2564	.342	.1635 .1625	.1595 .1570	.0410 .0390	8-32UNJC-3A Modified	4,010	1,290
-6	3/16	.3036 .2966	.355	.1895 .1885	.1840 .1810	.0470 .0450	10-32UNJF-3A Modified	5,380	2,000

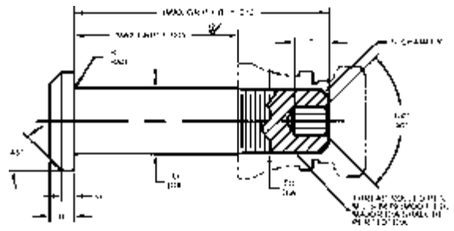
Max Grip	8-32 Thread 5/32 Nominal Diameter HL51-5-#	10-32 Thread 3/16 Nominal Diameter HL51-6-#
1/8	HL51-5-2	HL51-6-2
3/16	HL51-5-3	HL51-6-3
1/4	HL51-5-4	HL51-6-4
5/16	HL51-5-5	HL51-6-5
3/8	HL51-5-6	HL51-6-6
7/16	HL51-5-7	HL51-6-7
1/2	HL51-5-8	HL51-6-8
9/16	HL51-5-9	HL51-6-9

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HST10AG HI-LOK

Protruding Shear Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.
"AG" Hi-Kote 1 Aluminum coating per Hi Shear Spec. 294 and cetyl alcohol lube per Hi Shear spec. 305





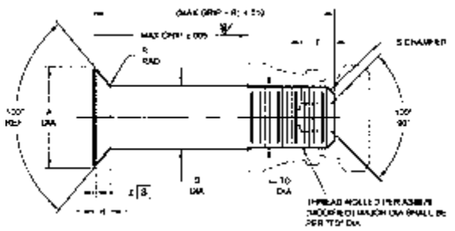
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia. w/out lube	D Dia. w/ lube	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.280	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.290	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	10-32UNJF-3A Modified	5,380	2,500

Max Grip	8-32 Thread 5/32 Nominal Diameter HST10AG5-#	10-32 Thread 3/16 Nominal Diameter HST10AG6-#
1/8	HST10AG5-2	HST10AG6-2
3/16	HST10AG5-3	HST10AG6-3
1/4	HST10AG5-4	HST10AG6-4
5/16	HST10AG5-5	HST10AG6-5
3/8	HST10AG5-6	HST10AG6-6
7/16	HST10AG5-7	HST10AG6-7
1/2	HST10AG5-8	HST10AG6-8
9/16	HST10AG5-9	HST10AG6-9

HST11AG HI-LOK

100° Reduced Flush Shear Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.
"AG" Hi-Kote 1 Aluminum coating per Hi Shear Spec. 294 and cetyl alcohol lube per Hi Shear spec. 305





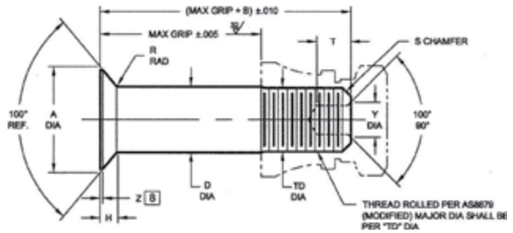
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia. w/out lube	D Dia. w/ lube	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2612 .2564	.280	.1635 .1630	.1635 .1625	.1595 .1570	.0410 .0390	8-32UNJC-3A Modified	4,010	1,650
-6	3/16	.3016 .2966	.290	.1895 .1890	.1895 .1885	.1840 .1810	.0470 .0450	10-32UNJF-3A Modified	5,380	2,000

Max Grip	8-32 Thread 5/32 Nominal Diameter HST11AG5-#	10-32 Thread 3/16 Nominal Diameter HST11AG6-#
1/8	HST11AG5-2	HST11AG6-2
3/16	HST11AG5-3	HST11AG6-3
1/4	HST11AG5-4	HST11AG6-4
5/16	HST11AG5-5	HST11AG6-5
3/8	HST11AG5-6	HST11AG6-6
7/16	HST11AG5-7	HST11AG6-7
1/2	HST11AG5-8	HST11AG6-8
9/16	HST11AG5-9	HST11AG6-9

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HLT900 HI-LOK

100° Flush Special Shear Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.
"AP" Hi-Kote1 Aluminum coating per Hi Shear Spec. 294 and cetyl alcohol lube per Hi Shear spec. 305

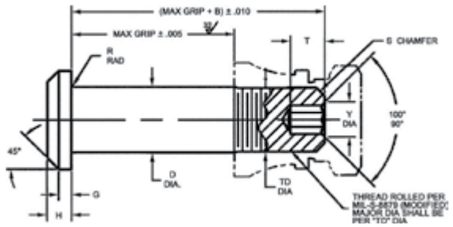


First Dash #	Nom. Dia.	A Dia.	A1 Dia.	B Ref.	D Dia.	TD Dia.	H	Z Max	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-6	3/16	.3277	.2963	.341	.1895 .1885	.1840 .1810	.047 .037	.015	10-32UNJF-3A Modified	5,380	2,400
-8	1/4	.4283	.3969	.416	.2495 .2485	.2440 .2410	.055 .045	.015	1/4-28UNJF-3A Modified	9,300	4,500

Max Grip	8-32 Thread 5/32 Nominal Diameter HLT900AP6-#	10-32 Thread 3/16 Nominal Diameter HLT900AP8-#
3/16	HLT900AP6-3	HLT900AP8-3
1/4	HLT900AP6-4	HLT900AP8-4
5/16	HLT900AP6-5	HLT900AP8-5
3/8	HLT900AP6-6	HLT900AP8-6
7/16	HLT900AP6-7	HLT900AP8-7
1/2	HLT900AP6-8	HLT900AP8-8

HLT912 HI-LOK

Protruding Tension Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.
160,000 PSI Tensile Min.
"AP" Hi-Kote1 Aluminum coating per Hi Shear Spec. 294 and cetyl alcohol lube per Hi Shear spec. 305



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.322 .306	.328	.1635 .1625	.1595 .1570	.030	.065 .055	8-32UNJC-3A Modified	4,010	2,180
-6	3/16	.377 .357	.341	.1895 .1885	.1840 .1810	.035	.074 .064	10-32UNJF-3A Modified	5,380	3,180

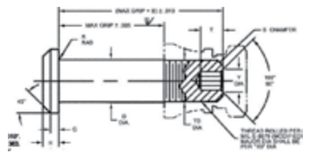
Max Grip	8-32 Thread 5/32 Nominal Diameter HLT912AP5-#	10-32 Thread 3/16 Nominal Diameter HLT912AP6-#
3/16	HLT912AP5-3	HLT912AP6-3
1/4	HLT912AP5-4	HLT912AP6-4
5/16	HLT912AP5-5	HLT912AP6-5
3/8	HLT912AP5-6	HLT912AP6-6
7/16	HLT912AP5-7	HLT912AP6-7
1/2	HLT912AP5-8	HLT912AP6-8

HL10 HI-LOK

Protruding Shear Head
Titanium
95,000 PSI Shear Minimum

The 2nd Dash # indicates Grip Length in 1/16th's of an inch





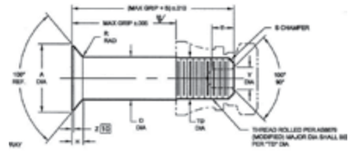
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter without coating or solid film lube	D Diameter with coating or solid film lube	TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
-5	5/32	.262 .242	.312	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32	4,010	1,940
-6	3/16	.315 .295	.325	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	10-32	5,380	2,500
-8	1/4	.412 .387	.395	.2495 .2490	.2495 .2485	.2440 .2410	.030	.069 .059	1/4-28	9,300	4,300

HL11 HI-LOK

100° Flush Shear Head
Titanium
95,000 PSI Shear Minimum

The 2nd Dash # indicates Grip Length in 1/16th's of an inch





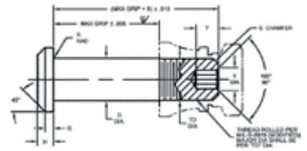
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter without coating or solid film lube	D Diameter with coating or solid film lube	TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
-5	5/32	.2612 .2564	.312	.1635 .1630	.1635 .1625	.1595 .1570	.041 .039	8-32	4,010	1,650
-6	3/16	.3016 .2966	.325	.1895 .1890	.1895 .1885	.1840 .1810	.047 .045	10-32	5,380	2,000
-8	1/4	.3948 .3898	.395	.2495 .2490	.2495 .2485	.2440 .2410	.061 .059	1/4-28	9,300	3,700

HL110 HI-LOK

Protruding Shear Head
Titanium, 95,000 PSI
Shear Minimum
1/64 Oversized for HL10

The 2nd Dash # indicates Grip Length in 1/16th's of an inch





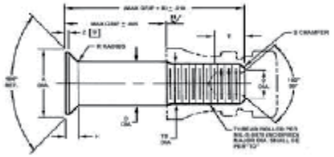
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter without coating or solid film lube	D Diameter with coating or solid film lube	TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
-5						NOTE: Use HL10VAZ6					
-6	13/64	.315 .295	.325	.2026 .2021	.2026 .2016	.1840 .1810	.025	.055 .045	10-32	6,130	2,500

HL111 HI-LOK

100° Flush Shear Head
Titanium, 95,000 PSI
Shear Minimum
1/64 Oversized for HL11

The 2nd Dash # indicates Grip Length in 1/16th's of an inch





First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter without coating or solid film lube	D Diameter with coating or solid film lube	TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
-5						NOTE: Use HL11VAZ6				
-6	13/64	.3016 .2966	.325	.2026 .2021	.2026 .2016	.1840 .1810	.055 .045	10-32	6,130	2,500

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov
⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

HI-LOK & COLLAR QUICK REFERENCE GUIDE

Stud	Head Style	Material	Pin Description
HL10	PROTRUDING SHEAR	6AL-4V TITANIUM	STANDARD SHANK DIAMETER 1/16 GRIP VARIATION
HL11	100° FLUSH SHEAR		
HL18	PROTRUDING SHEAR	ALLOY STEEL	
HL19	100° FLUSH SHEAR		
HL20	PROTRUDING TENSION		
HL21	100° FLUSH TENSION HEAD		
HL22	PROTRUDING SHEAR HEAD	7075-T6 ALUMINUM ALLOY	
HL23	100° FLUSH SHEAR HEAD		
HL30	PROTRUDING SHEAR HEAD	431 STAINLESS STEEL	
HL40	PROTRUDING SHEAR HEAD	A-286 HIGH TEMP ALLOY	
HL41	100° FLUSH SHEAR HEAD		
HL48	PROTRUDING TENSION HEAD		
HL50	PROTRUDING SHEAR HEAD	ALLOY STEEL	3/32 GRIP VARIATION
HL51	100° FLUSH SHEAR HEAD		
HL62	PROTRUDING SHEAR HEAD		1/64 OVERSIZE FOR HL18
HL63	100° FLUSH SHEAR HEAD		1/64 OVERSIZE FOR HL19
HL64	PROTRUDING TENSION HEAD		1/64 OVERSIZE FOR HL20
HL65	100° FLUSH TENSION HEAD		1/64 OVERSIZE FOR HL21
HL110	PROTRUDING SHEAR HEAD	6AL-4V TITANIUM	1/64 OVERSIZE FOR HL10
HL111	100° FLUSH SHEAR HEAD		1/64 OVERSIZE FOR HL11
HL218	PROTRUDING SHEAR HEAD	ALLOY STEEL	1/32 OVERSIZE FOR HL18
HL219	100° FLUSH SHEAR HEAD		1/32 OVERSIZE FOR HL19
HL220	PROTRUDING TENSION HEAD		1/32 OVERSIZE FOR HL20
HL221	100° FLUSH TENSION HEAD		1/32 OVERSIZE FOR HL21
HL325	100° FLUSH SHEAR HEAD		LEAD IN RADIUS INTERFERENCE APPLICATION
HL326	PROTRUDING TENSION HEAD		
HL327	100° FLUSH TENSION HEAD		
HL328	PROTRUDING SHEAR HEAD		
HLT900	100° FLUSH SHEAR SPECIALHEAD	6AL-4V TITANIUM	STANDARD SHANK DIAMETER 1/16 GRIP VARIATION
HLT912	PROTRUDING TENSION HEAD		

HI-LOK COLLARS

Part #	Material	Application	Description
HL70	2024-T6 ALUMINUM ALLOY	SHEAR	STANDARD COLLAR FOR HL18 AND HL19
HL75	303 STAINLESS STEEL	TENSION	SELF ALIGNING COLLAR ASSEMBLY
HL77	2024-T6 ALUMINUM ALLOY	SHEAR	FOR USE ON STANDARD SIZE ALUMINUM ALLOY PINS
HL79	2024-T6 ALUMINUM ALLOY	SHEAR	FOR USE ON STANDARD AND 1/64 OVERSIZE HI-LOK PINS
HL82	ALUM. COLLAR, STAINLESS STEEL WASHER	SHEAR	SELF ALIGNING COLLAR ASSEMBLY
HL84	2024-T6 ALUMINUM ALLOY	SHEAR	FOR USE ON 1/32 OVERSIZE HI-LOK PINS
HL86	303 STAINLESS STEEL	TENSION	FOR USE ON HL20 AND HL21
HL87	303 STAINLESS STEEL	TENSION	FOR USE ON 1/64 OVERSIZE HI-LOK PINS
HL90	2024-T6 ALUMINUM	SHEAR	FOR USE ON HL50 AND HL51
HL93	303 STAINLESS STEEL	TENSION	FOR USE ON 1/32 OVERSIZE HI-LOK PINS
HL94	303 STAINLESS STEEL	SHEAR	FOR USE ON STANDARD AND 1/64 OVERSIZE HI-LOKS
HLT77	2024-T6 ALUMINUM	SHEAR	FOR USE ON HL325 AND HL328

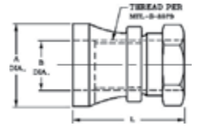
RECOMMENDED COLLARS

Hi-Lok Pin	Recommended Collars	Hi-Lok Pin	Recommended Collars
HL18	HL70, HL79, HL82, HL94	HL64	HL75, HL87
HL19	HL70, HL79, HL82, HL94	HL65	HL75, HL87
HL20	HL75, HL86, HL87	HL218	HL84
HL21	HL75, HL86, HL87	HL219	HL84
HL22	HL77	HL220	HL93
HL23	HL77	HL221	HL93
HL30	HL70, HL79, HL82, HL94	HL325	HLT77
HL40	HL70, HL79, HL82, HL94, HL97, HL297	HL326	HL386
HL41	HL70, HL79, HL82, HL94	HL327	HL386
HL48	HL75, HL78, HL86	HL328	HLT77
HL50	HL83, HL90	HL10VAZ	HL70, HL79, HL82, HL94
HL51	HL83, HL90	HL11VAZ	HL70, HL79, HL82, HL94
HL62	HL79, HL82, HL94	HL110VAZ	HL79, HL82, HL94
HL63	HL79, HL82, HL94	HL111VAZ	HL79, HL82, HL94

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL70 COLLAR



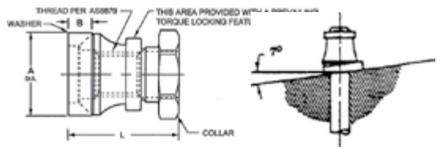


Shear Application
Aluminum Alloy

HL70	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32UNJC-3B	.292 .288	.173 .166	.447 .427	1400	15-25
-6	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	1600	25-35
-8	1/4	1/4-28UNJF-3B	.412 .408	.261 .252	.552 .532	3000	60-80
-10	5/16	5/16-24UNJF-3B	.518 .512	.325 .314	.672 .652	5000	130-160

HL75 COLLAR



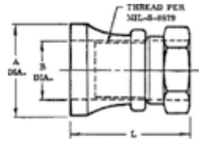


Self-Aligning Collar Assembly
Tension Application
303 Stainless Steel

HL75	PIN. NOM. DIA.	THREAD	A DIA.	B	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5A	5/32	8-32 UNJC-3B	.365 .355	.095 .085	.457 .427	2300	30-40
HL75-5AW - Collar/Washer Combination							
-6A	3/16	10-32 UNJF-3B	.365 .355	.095 .085	.457 .427	2750	40-50
HL75-6W - Washer Only							
-8A	1/4	1/4-28 UNJF-3B	.475 .465	.120 .110	.552 .522	5000	115-130
HL75-8W - Washer Only							
-10A	5/16	5/16-24 UNJF-3B	.620 .610	.130 .120	.672 .642	8300	200-250

HL77 COLLAR





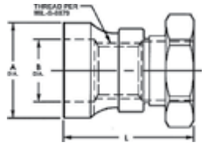
Shear Application
Aluminum Alloy

HL77	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	TENSION PRELOAD LBS. MIN.	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC-3B	.292 .288	.173 .166	.447 .427	350	1400	10-20
-6	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	500	1600	20-30
-8	1/4	1/4-28UNJF-3B	.412 .408	.261 .252	.552 .532	1000	3000	55-70
-10	5/16	5/16-24UNJF-3B	.518 .512	.325 .314	.672 .652	1650	5000	100-125

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL78 COLLAR



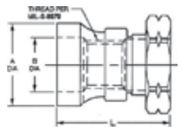


Tension Application
A-286 High Temp. Alloy
1/16th Grip Variation

HL78	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32UNJC-3B	.287 .283	.173 .166	.447 .427	2,300	30-40
-6	3/16	10-32UNJF-3B	.307 .303	.212 .208	.457 .437	2,750	40-50
-8	1/4	1/4-28UNJF-3B	.412 .408	.272 .268	.552 .532	5,000	110-130

HL79 COLLAR





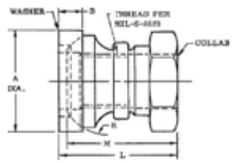
Shear Application
Aluminum Alloy
For Use on Standard and
1/64 Oversized Hi-Loks

HL79	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	NOTE: FOR 5 DIAMETER HI-LOKS USE HL70-5					
-6	13/64	10-32UNJF-3B	.322 .318	.212 .208	.457 .437	1600	25-35
-8	17/64	1/4-28UNJF-3B	.422 .418	.272 .268	.552 .532	3000	60-80
-10	21/64	5/16-24UNJF-3B	.538 .532	.336 .330	.672 .652	5000	130-160

HL82 COLLAR







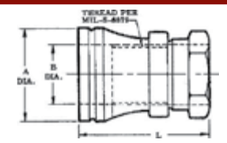
Shear Application
Self-Aligning Collar Assembly
Aluminum Collar, Stainless Washer
APBW Indicates Collar Washer Combination
CAD II Plated Washer

HL82	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	M	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5AW	5/32	8-32UNJC-3B	.365 .355	.095 .085	.420 .400	.445	1400	22-32
-6APBW	3/16	10-32UNJF-3B	.365 .355	.095 .085	.420 .400	.445	1600	32-42
-6A	3/16	10-32UNJF-3B	.365 .355	.095 .085	.420 .400	.445	1600	32-42
-6AW	3/16	10-32UNJF-3B	.365 .355	.095 .085	.420 .400	.445	1600	32-42
-8APBW	1/4	1/4-28UNJF-3B	.475 .465	.120 .110	.540 .520	.570	3000	75-90
-8A	1/4	1/4-28UNJF-3B	.475 .465	.120 .110	.540 .520	.570	3000	75-90
-10A	5/16	5/16-24UNJF-3B	.620 .610	.130 .120	.647 .627	.690	5000	140-170

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HL84 COLLAR



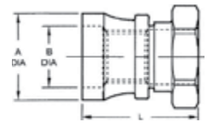


Shear Application
Aluminum Alloy
For Use on 1/32 Oversized Hi-Loks

HL84	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-6	7/32	10-32UNJF-3B	.335 .325	.227 .223	.457 .437	1,600	25-35
-8	9/32	1/4-28UNJF-3B	.430 .420	.290 .286	.552 .532	3,000	60-80
-10	11/32	5/16-24UNJF-3B	.580 .570	.353 .347	.672 .652	5,000	130-160

HL86 COLLAR



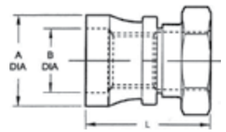


Tension Application
303 Stainless Steel

HL86	PIN NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC-3B	.287 .283	.173 .166	.447 .427	2,300	30-40
-6	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	2,750	40-50
-8	1/4	1/4-28UNJF-3B	.412 .408	.261 .252	.552 .532	5,000	115-130
-10	5/16	5/16-24UNJF-3B	.518 .512	.325 .314	.672 .652	8,300	200-250

HL87 COLLAR



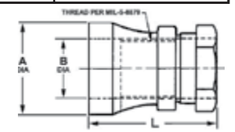


Tension Application
303 Stainless Steel
For Use on 1/64 Oversized Hi-Loks
NOTE: For HL87-5 Diameter Pin, Use HL86-5

HL87	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-6	13/64	10-32UNJF-3B	.307 .303	.212 .208	.457 .437	2,750	40-50
-8	17/64	1/4-28UNJF-3B	.412 .408	.272 .268	.552 .532	5,000	115-130
-10	21/64	5/16-24UNJF-3B	.518 .512	.336 .330	.672 .652	8,300	200-250

HL90 COLLAR





Shear Application
Aluminum Alloy

HL90	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
LP5A	5/32	8-32-UNJC-3B	.292 .288	.173 .166	.447 .427	1,400	15-25
LP6A	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	1,600	25-35

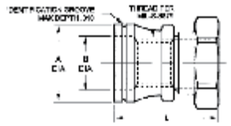
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

How Can We Help? 1-888-760-1066

HL93 COLLAR

Tension Application
303 Stainless Steel
For Use on 1/32 Oversize Hi-Loks



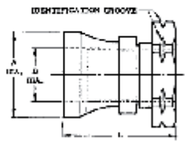


HL93	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-6	7/32	10-32-UNJF-3B	.332 .328	.227 .223	.457 .437	2,750	40-50
-8	9/32	1/4-28UNJF-3B	.427 .423	.290 .286	.552 .532	5,000	115-130
-10	11/32	5/16-24UNJF-3B	.578 .572	.353 .347	.672 .652	8,300	200-250

HL94 COLLAR

Shear Application
303 Stainless Steel
For Use on Standard
and 1/64 Oversized Hi-Loks



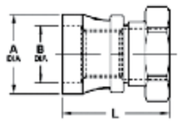


HL94	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC-3B	.292 .288	.173 .166	.447 .427	2,300	15-25
-6	13/64	10-32UNJF-3B	.322 .318	.212 .208	.457 .437	2,750	25-35
-8	17/64	1/4-28UNJF-3B	.422 .418	.272 .268	.552 .532	5,000	60-80
-10	21/64	5/16-24UNJF-3B	.538 .532	.336 .330	.672 .652	8,300	130-160

HL97 COLLAR

Shear Application
A-286 High Temp. Alloy
1/16th Grip Variation



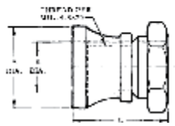


HL97	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-4	1/8	6-32 UNJC-3B	.240 .235	.147 .143	.420 .400	1,350	10-20
-5	5/32	8-32 UNJC-3B	.287 .283	.173 .166	.447 .427	1,940	15-25
-6	3/16	10-32UNJF-3B	.307 .303	.200 .195	.457 .437	2,500	25-35

HLT77 COLLAR

Shear Application
Aluminum Alloy





HLT77	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC	.292 .288	.179 .175	.447 .427	1,400	15-25
-6	3/16	10-32UNJF	.307 .303	.205 .201	.457 .437	1,600	25-35
-8	1/4	1/4-28UNJF	.412 .408	.265 .261	.550 .530	3,000	60-80

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

CAMLOC 2600 Series

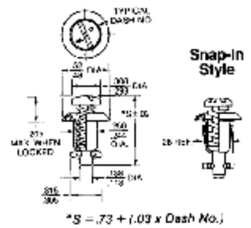
Protruding Head Carbon Steel
MONADNOCK
Slotted 1126000-#
Phillips 1126004-#

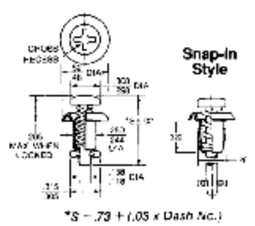
∗ *see Stainless Steel (below) for Winged Stud*

Total Panel Thickness Using 212-12 Receptacle	CARBON STEEL	
	Slotted	Phillips
.060-.089	2600-2	26S8-2
.090-.119	2600-3	26S8-3
.120-.149	2600-4	26S8-4
.150-.179	2600-5	26S8-5
.180-.209	2600-6	26S8-6
.210-.239	2600-7	26S8-7
.240-.269	2600-8	26S8-8
.270-.299	2600-9	26S8-9
.300-.329	2600-10	26S8-10
.330-.359	2600-11	26S8-11
.360-.389	2600-12	26S8-12
.420-.449	2600-14	26S8-14
.450-.479	2600-15	26S8-15
.480-.509	2600-16	26S8-16
.540-.569	2600-18	---







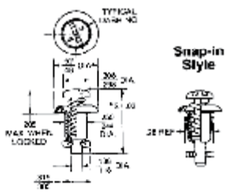


CAMLOC 2600 Series

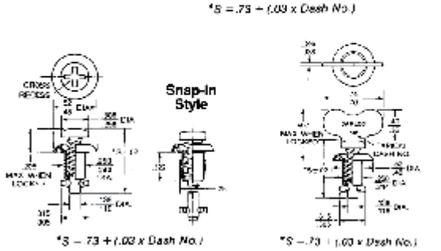
Protruding Head Stainless Steel

MONADNOCK
Slotted 1126007-#
Phillips 1126008-#
Winged 1126014-#





Total Panel Thickness Using 212-12 Receptacle	STAINLESS STEEL		
	Slotted	Phillips	Winged
.030-.059	2600-1S	---	2600-1SW
.060-.089	2600-2S	26S51-2	2600-2SW
.090-.119	2600-3S	26S51-3	2600-3SW
.120-.149	2600-4S	26S51-4	2600-4SW
.150-.179	2600-5S	26S51-5	2600-5SW
.180-.209	2600-6S	26S51-6	2600-6SW
.210-.239	2600-7S	26S51-7	2600-7SW
.240-.269	2600-8S	26S51-8	2600-8SW

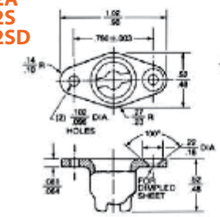


CAMLOC RECEPTACLE FOR 2600/2700 SERIES

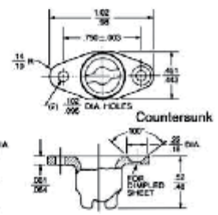
Monadnock with same Fit, Form & Function
may be substituted for Camloc if cost effective

Part #	Rivet Hole	Material	Monadnock #
212-12	Plain	Silicon Bronze (Cad Plated)	1127701
212-12D	Countersunk		1127702
212-12N	Plain		1127726
212-12A		Aluminum	1127707
212-12S		Stainless Steel	1127711
212-12SD	Dimpled		1127712

212-12
212-12D
212-12A
212-12S
212-12SD



212-12N
Narrow Width



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

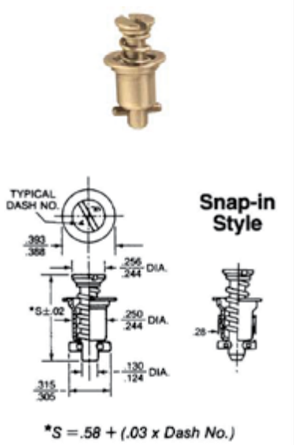
CAMLOC 2700 Series

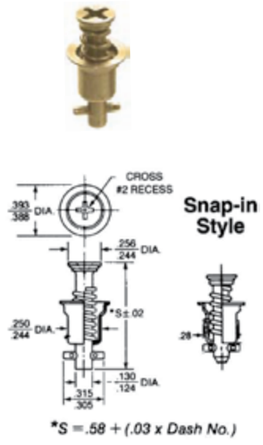
Flush Head Carbon Steel

MONADNOCK

Slotted 1127000-#, Phillips 1127004-#

Total Panel Thickness Using 212-12 Receptacle	Slotted Part #	Phillips Part #
.060-.089	2700-2	27S3-2
.090-.119	2700-3	27S3-3
.120-.149	2700-4	27S3-4
.150-.179	2700-5	27S3-5
.180-.209	2700-6	27S3-6
.210-.239	2700-7	27S3-7
.240-.269	2700-8	27S3-8
.270-.299	2700-9	27S3-9
.300-.329	2700-10	27S3-10
.330-.359	2700-11	27S3-11
.360-.389	2700-12	27S3-12
.390-.419	2700-13	27S3-13
.420-.449	2700-14	27S3-14
.450-.479	2700-15	--
.480-.509	2700-16	--
.510-.539	2700-17	--
.540-.569	2700-18	--
.570-.599	2700-19	--





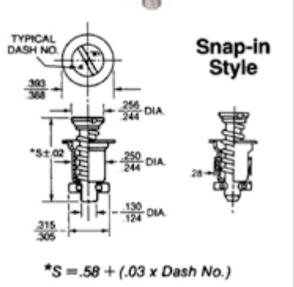
CAMLOC 2700 Series

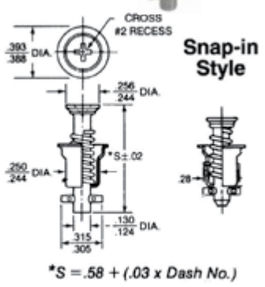
Flush Head Stainless Steel

MONADNOCK

Slotted 1127003-#, Phillips 1127009-#

Total Panel Thickness Using 212-12 Receptacle	Slotted Part #	Phillips Part #
.060-.089	2700-2S	27S3-2S
.090-.119	2700-3S	27S3-3S
.120-.149	2700-4S	27S3-4S
.150-.179	2700-5S	27S3-5S
.180-.209	2700-6S	27S3-6S
.210-.239	2700-7S	27S3-7S
.240-.269	2700-8S	27S3-8S
.270-.299	2700-9S	27S3-9S
.300-.329	2700-10S	--



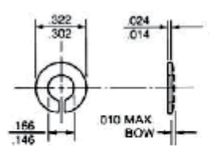


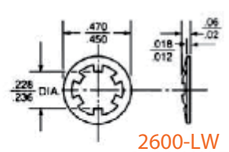
CAMLOC RETAINING RINGS FOR 2600/2700 SERIES

Monadnock with same Fit, Form & Function may be substituted for Camloc if cost effective

Part #	Type	Material	Monadnock #
2600-SW	Split Ring	Stainless Steel	1127722
2600-SW2	Split Ring	Cad. Plated	1127723
2600-LW	Solid Ring	Cad. Plated	1127700
2600-LW-7	Solid Ring	Stainless Steel	1127746
27S5-1	Solid Ring	Cad. Plated	1127301

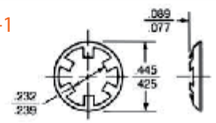
2600-SW
2600-SW2





2600-LW
2600-LW-7

27S5-1



CAMLOC 4002 Series

Heavy Duty
Carbon Steel & Stainless Steel

Panel Thickness Using Receptacles		PIN. NOM. DIA.		STAINLESS STEEL	
214-16	244-16	Slotted	Phillips	Slotted	Phillips
.081-.110	.051-.080	4002-2	40S5-2	4002-2S	40S5-2S
.111-.140	.081-.110	4002-3	40S5-3	4002-3S	40S5-3S
.141-.170	.111-.140	4002-4	40S5-4	4002-4S	40S5-4S
.171-.200	.141-.170	4002-5	40S5-5	4002-5S	40S5-5S
.201-.230	.171-.200	4002-6	40S5-6	4002-6S	40S5-6S
.231-.260	.201-.230	4002-7	40S5-7	4002-7S	40S5-7S
.261-.290	.231-.260	4002-8	40S5-8	4002-8S	40S5-8S
.291-.320	.261-.290	4002-9	40S5-9	4002-9S	40S5-9S
.321-.350	.291-.320	4002-10	40S5-10	4002-10S	40S5-10S
.351-.380	.321-.350	4002-11	40S5-11	4002-11S	40S5-11S
.381-.410	.351-.380	4002-12	40S5-12	4002-12S	40S5-12S
.411-.440	.381-.410	4002-13	40S5-13	4002-13S	40S5-13S
.441-.470	.411-.440	4002-14	40S5-14	4002-14S	40S5-14S
.471-.500	.441-.470	4002-15	40S5-15	---	---
.501-.530	.471-.500	4002-16	40S5-16	---	---
.531-.560	.501-.530	4002-17	40S5-17	---	---

CAMLOC RECEPTACLE FOR 4002 SERIES

Silicon Bronze

Part #	Rivet Hole	Material	Monadnock #
214-16	Plain	Silicone Bronze, Cad Pltg.	1142700
214-16D	Countersunk		1142701
214-16S	Plain, Floating	Stainless Steel	1142710
214-16SD	Countersunk		1142711
244-16	Plain, Floating	Steel Cad Plated	1142706
244-16D	Countersunk		1142716
244-16S	Plain, Floating	Stainless Steel	1142717

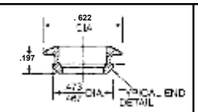
CAMLOC GROMMETS FOR 4002 SERIES

Heavy Duty Series

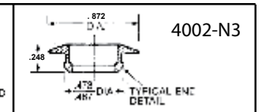
Monadnock with same Fit, Form & Function may be substituted for Camloc if cost effectiive

Max Panel Thickness	Part #	Material	Monadnock #
.065 .065	4002-N 4002-NS	Cad Plated Stainless	1142901-2 1142903-2
.074 .074	4002-G 4002-GS	Cad Plated Stainless	1142900-1 1142904-1
.094 .094	4002-O 4002-OS	Cad Plated Stainless	1142901-3 1142903-3
.117 .117	4002-H 4002-HS	Cad Plated Stainless	1142900-2 1142904-2
.072	4002-N3	Cad Plated	1142922-1

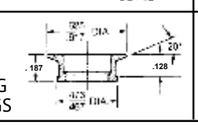
4002-N
4002-NS
4002-O
4002-OS



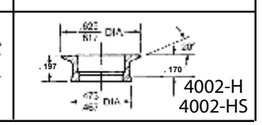
4002-N3



4002-G
4002-GS



4002-H
4002-HS

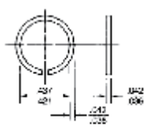


CAMLOC RETAINING RINGS FOR 4002 SERIES

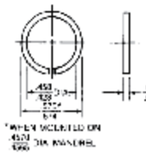
Heavy Duty Series

Part #	Material	Monadnock #
R4G	Cad Plated	1142902
40G26-1	Stainless	1142905
R4T(Hi Shear)	Alloy Steel, Cad Plated	1142913
4002-SW	Spring Steel, Cad Plated	1142703
4002-SW-SS	Stainless Steel	1142721

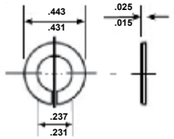
R4G
40G26-1



R4T



4002-SW
4002-SW-SS



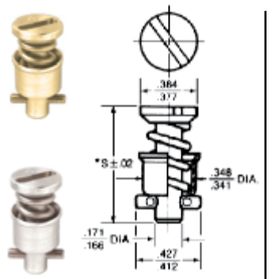
Monadnock Equivalent Part #'s

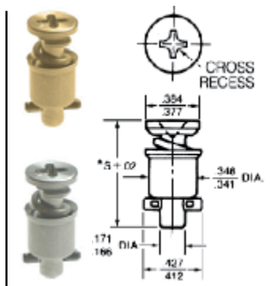
Carbon Steel

Slotted 1142000-#
Phillips 1142005-#

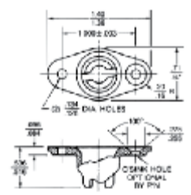
Stainless Steel

Slotted 1142002-#
Phillips 1142012-#

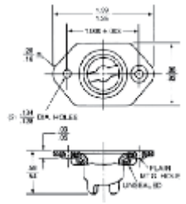




**S = .63 + (.03 x Dash No.*

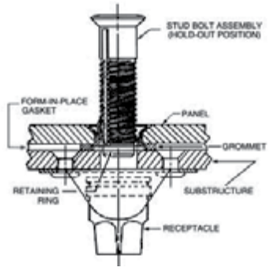


214-16



244-16

MARK IV TRIDAIR STRUCTURAL PANEL FASTENERS



Features:

- *Superior strength*
- *Positive stud bolt hold-out*
- *Grommet design for composite metal*
- *Grommet is great for gasketed applications, provides hard seat surface, superior load transfer and counterbore for retaining ring.*
- *Retaining ring is replaceable and no tool is necessary to install*
- *Unthreaded lead on stud bolt offers probing ability*
- *Accomodates large variations in grip*

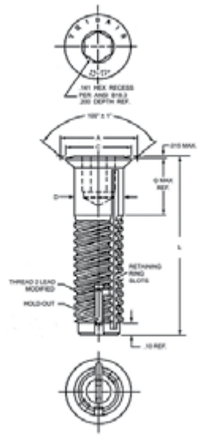
STUD BOLT ASSEMBLY

CA21037-4-#HS (1/4 size)
CA21037-6-#HS (3/8 size)

sample part number

CA21037 - 4 - 10 HS

- *Hex Socket Recess L = 1.532; grip max = .850*
- *1/4 size*
- *Basic Part Number*

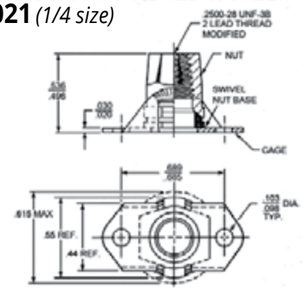


First Dash #	Thread Size	A Dia.	C Dia.	D Dia.
- 4	.2500-28 2 Lead	.440 .430	.375	.2495 .2470
- 6	.3750-24 2 Lead	.564 .554 Max. / Min.	.505	.3745 .3730 Max. / Min.

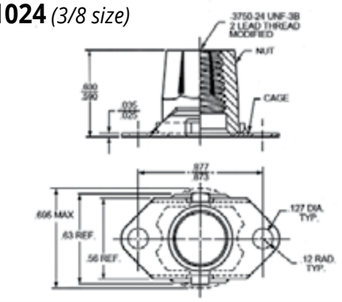
Second Dash #	G - Grip Min.	G - Grip Max.	- 4 Size Length	-6 Size Length
- 2	.150	.290	.972	1.170
- 4	.291	.430	1.112	1.210
- 6	.431	.570	1.252	1.350
- 8	.571	.710	1.392	1.490

FLAT BEAM NUT RECEPTACLES

CA21021 *(1/4 size)*

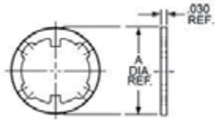


CA21024 *(3/8 size)*



RETAINING RING

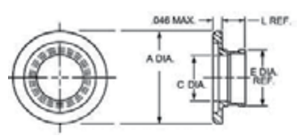
CA21037-#R



Nominal Size	Part Number	A Dia.	Finish
1/4	CA21037-4R	.355	Passivated
	CA21037C-4R		Cad Plated, Type II Class 2
3/8	CA21037-6R	.480	Passivated
	CA21037C-6R		Cad Plated, Type II Class 2

GROMMET

CA21038-#-#

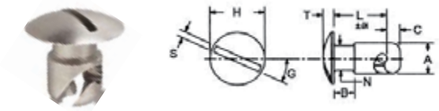


Nom. Size	Part Number	L	Grip	A	C	E
1/4	CA21038-4-1	.115	.085	.505 max.	.255 max.	.310
	CA21038-4-2	.135	.105			
	CA21038-4-3	.155	.125			
3/8	CA21038-6-1	.105	.085	.630 max.	.395 max.	.465
	CA21038-6-2	.125	.105			
	CA21038-6-3	.145	.125			

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

SLOTTED HEAD

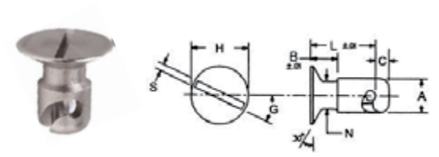
DZUS Stud
Alternate # 121J-#-Z3CT



Part #	A	B	C	G	H	L	N	S	T
AJ3-25	3/16	.075	.075	25°	.312	.250	.150	.038	.080
AJ3-30		.100				.300			
AJ3-35		.150				.350			
AJ3-40		.200				.400			
AJ3-45		.225				.450			
AJ4-25	1/4	.100	.100	28°	.437	.250	.200	.050	.085
AJ4-30		.100				.300			
AJ4-35		.150				.350			
AJ4-40		.200				.400			
AJ4-45		.225				.450			
AJ4-50		.250				.500			
AJ5-30	5/16	.125	.125	30°	.562	.300	.250	.062	.102
AJ5-35		.125				.350			
AJ5-40		.190				.400			
AJ5-45		.190				.450			
AJ5-50		.250				.500			

FLUSH HEAD

DZUS Stud

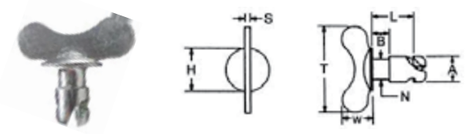


Alternate # 126J-#-Z3CT

Part #	A	B	C	G	H	L	N	S
FJ4-30	1/4	.150	.100	28°	.437	.300	.200	.050
FJ4-35		.175				.350		
FJ4-40		.200				.400		
FJ5-30	5/16	.200	.125	30°	.562	.300	.250	.062
FJ5-40		.225				.400		
FJ5-50		.250				.500		

WING HEAD

DZUS Stud



Alternate # 121J-W#-Z3CT

Part #	A	B	H	L	N	S	T	W
AJW4-25	1/4	.100	.437	.250	.200	.050	.875	.312
AJW4-30		.100		.300				
AJW4-35		.150		.350				
AJW5-30	5/16	.125	.562	.300	.235	.062	1.125	.437
AJW5-40		.190		.400				
AJW5-50		.250		.500				

FULL GROMMETS



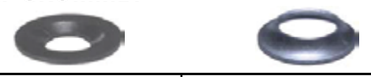
Stud Size	Panel Thickness	GA	Alt. # 1271-	GF	Alt. # 1276-
3	.015 - .025	GA3-175	3175	---	---
	.026 - .050	GA3-200	3200	---	---
	.051 - .094	GA3-250	3250	---	---
4	.026 - .050	GA4-250	4250	GF4-150	4150
	.051 - .075	GA4-275	4275	GF4-175	4175
5	.031 - .062	GA5-312	5312	GF5-175	5175
	.063 - .094	GA5-350	5350	GF5-225	5225
	.095 - .125	GA5-375	5375	GF5-250	5250

SPRING RECEPTACLES



Stud Size	Part #	Alt. # 1219-	Rivet Hole Space	Height
3	S3-150	3150-Z3Y	5/8	.150
	S3-175	3175-Z3Y		.175
	S3-200	3200-Z3Y		.200
	S3-225	3225-Z3Y		.225
4	S4-200	4200-Z3Y	3/4	.200
	S4-225	4225-Z3Y		.225
	S4-250	4250-Z3Y		.250
5	S5A-200	A5200-Z3CT	1	.200
	S5A-225	A5225-Z3CT		.225
	S5A-250	A5250-Z3Y		.250

HALF GROMMET



GP-Thermoplastic		GH-Aluminum	
Part #	Alt. #	Part #	Alt #
GP3B	127P-3B	GH3	127H-3
GP4B	127P-4B	GH4	127H-4
GP5B	127P-5B	GH5	127H-5

RETAINING SPRING



RETAINING RING



Part #	Stud	Part #	Stud
SX520SS	3	SR3SS	3
SX523SS	4	SR4SS	4
SX510SS	5	SR5SS	5

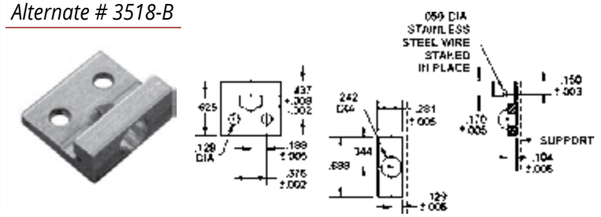
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

CAPTIVE ¼-TURN FASTENERS

- ¼-Turn fastening action offers operating convenience, predictable clamping force, and locked vibration resistance.
- Panel line fasteners combine those features with the versatility of continuous and closely-spaced panel fastening points, and the ease of flare-in stud installation.
- Receptacle strips are installed to frame out the console opening, serving as offset supports for the stud panel. Continuous stud holes and installation rivet holes are available every 3/8".

RIGHT ANGLE SINGLE HOLE RECEPTACLE PRB3.5

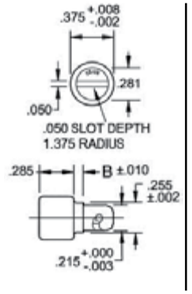
Alternate # 3518-B



PFSC 35 STUD ASSEMBLY

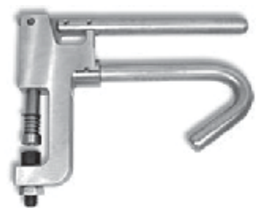


Stud Assembly	Alternate	Panel Thick	B Dim
PFSC35-37A	**3506-SC37A-Z3CT**	.050 - .059	.070
PFSC35-38A	**3506-SC38A-Z3CT**	.060 - .069	.080
PFSC35-38AZBB	**3506-SC38A-Z3BT**	.060 - .069	.080
PFSC35-39A	**3506-SC39A-Z3CT**	.070 - .079	.090
PFSC35-40A	**3506-SC40A-Z3CT**	.080 - .089	.100
PFSC35-44A	**3506-SC44A-Z3CT**	.120 - .129	.140



TP35AHT - ALT# 9916-35AHT-BB

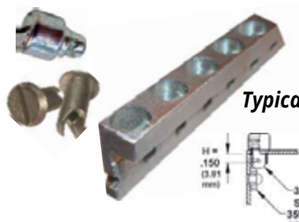
Hand-squeeze tool for PFSC35 pre-assembled fasteners.



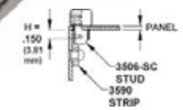
PR35 RIGHT-ANGLE STRIP

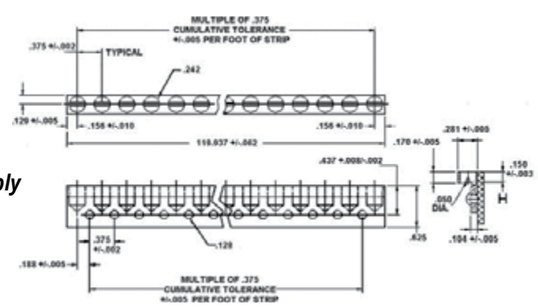
For mounting against a support member at right angle to the fastened panel or removable part. Material: Strip is aluminum alloy (6061-T6). Wire is stainless steel Type 316. Available in 3, 5, 7, and 9 foot lengths.

Typical Studs
PFSC35-#
Alt. # 3506-SC#A-C3C
PF35-#
Alt. # 3506-38-C3C
3 Foot Length
PR35SX3
Alt. # 3590-S3
5 Foot Length
PR35SX5
Alt. # 3590-S5



Typical Assembly

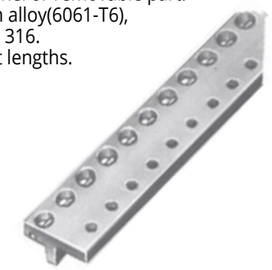


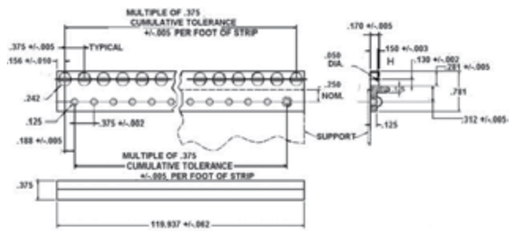


PR35-1 FLAT STRIP

For mounting against a support member in a plane with the fastened panel or removable part. Material: Strip is aluminum alloy(6061-T6), Wire is stainless steel Type 316. Available in 3, 5, and 7 foot lengths.

Flat Strip
3 Foot Length
PR35-1S3
Alt. # 3595-S3
5 Foot Length
PR35-1S5
Alt. # 3595-S5





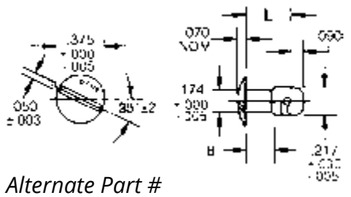
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

DZUS A3.5T Series

(A35T, A3-1/2T)

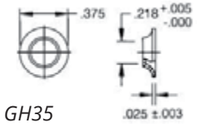
T Total Thickness	Stud Shank Dimensions L	B	Stud A3.5
.031 - .060	.290	.170	T6
.061 - .090	.320	.170	T9
.091 - .102	.350	.210	T12
.121 - .150	.380	.250	T15
.151 - .180	.410	.290	T18
.181 - .210	.440	.290	T21
.211 - .240	.470	.330	T24
.241 - .270	.500	.370	T27
.271 - .300	.530	.410	T30
.301 - .330	.560	.410	T33
.331 - .360	.590	.450	T36

A3.5T



Alternate Part #
2351-20-##-Z3CT (Zinc Trivalent Chromate)
2351-20-##-C3C (Cadmium Electroplated)

Type GH Half Grommet



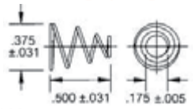
GH35

Snap Ring



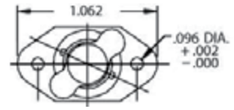
SR35SS

Retaining Spring



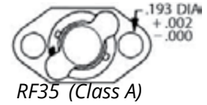
SX551SS

Rigid Receptacle



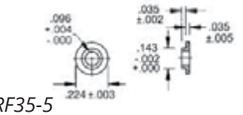
R35 (Class B)
Alternate #- 2350-18-Z3CT

Floating Receptacle



RF35 (Class A)
Alternate # - 2350-18F-ZCT

Spacer
2 Included with RF35 Receptacle

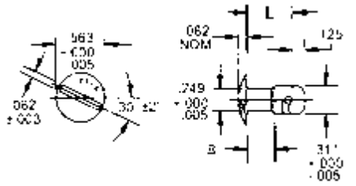


RF35-5

DZUS A5T Series

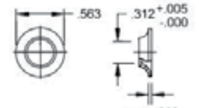
T Total Thickness	Stud Shank Dimensions L	B	Stud A5
.021 - .050	.350	.170	T5
.051 - .080	.380	.210	T8
.081 - .110	.410	.250	T11
.111 - .140	.440	.250	T14
.141 - .170	.470	.290	T17
.171 - .200	.500	.330	T20
.201 - .230	.530	.370	T23
.231 - .260	.560	.370	T26
.261 - .290	.590	.410	T29
.291 - .320	.620	.450	T32
.321 - .350	.650	.490	T35
.351 - .380	.680	.490	T38

A5T



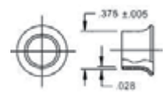
Alternate Part #
2501-20- ## -Z3CT (Zinc Trivalent Chromate)
2501-20- ## -C3C (Cadmium Electroplated)

Type GH Half Grommet



GH5

Type GA Full Grommet



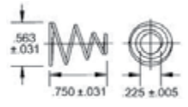
GA5 Series

Snap Ring



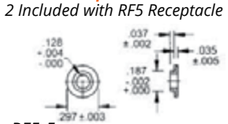
SR5SS

Retaining Spring



SX510SS

Spacer
2 Included with RF5 Receptacle



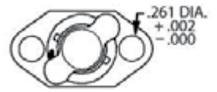
RF5-5

Rigid Receptacle



R5 (Class B)
Alternate # - 2500-18-Z3CT

Floating Receptacle



RF5 (Class A)
Alternate # - 2500-18F-Z3CT

DZUS TOOLING

- *For replacement of Dzus studs with grommets*
- *Will not set winged studs*

Part#	Stud
TP835A	AJ3
TP835B	AJ4
TP835C	FJ4
TP835D	AJ5
TP835E	FJ5



TP835A



TP835B Old Style



TP835B New Style



TP835C



TP835D

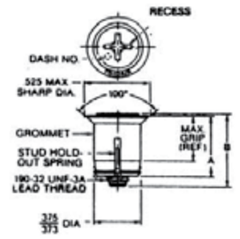


TP835E

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

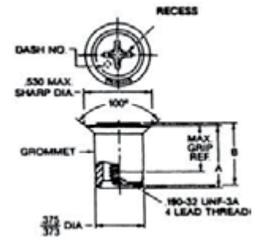
TRIDAIR STRUCTURAL PANEL FASTENERS

FX10-1558 SERIES
Flush Head Style



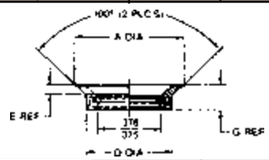
Basic Stud Assembly Part No.	A Ref.	B Ref.	Grip Range Min	Grip Range Max	Weight lbs / ea.
FX10-1558-1P	.35	.41	.150	.220	.010
FX10-1558-2P	.42	.48	.221	.290	.013

FX10-15010 SERIES
Fully Retractable Flush Head Style



Stud Assembly Part No.	A Ref.	B Ref.	Grip Range Min	Grip Range Max	Weight lbs/ ea.
FX10-15010-1P	.42	.41	.230	.290	.013

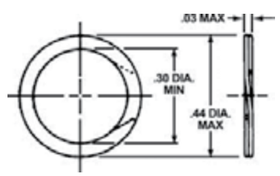
HOLD-OUT GROMMET FX10-15009 SERIES
Corrosion Resistant



Part No.	A	D Dia.	E	G
FX10-15009-1	.630	.500	.050	.128

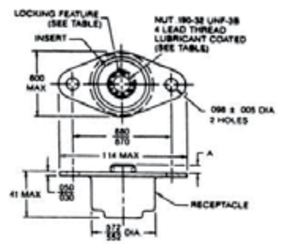
RETAINING RING FX10-1525
CORROSION RESISTANT

Part No.
FX10-1525



FX10-15030-1P
CORROSION RESISTANT STEEL

RECEPTACLE ASSEMBLIES FX10-1502 SERIES

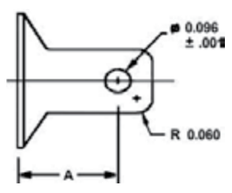


Locking Feature	Part No.	A* Ref.	Lubricant Coating
High** Prevailing Torque Eliptical	FX10-1502	None	Per MIL-L-25681

AIRLOC® FASTENERS AND SKYLOC FASTENERS
Flush Head Length .609 Head Dia. 9/16

Grip	A	Steel	Stainless Steel
.171 - .180	.367	98265-2-180	SK294186-2-180
.181 - .190	.377	98265-2-190	SK294186-2-190
.191 - .200	.387	98265-2-200	SK294186-2-200
.201 - .210	.397	98265-2-210	SK294186-2-210
.221 - .230	.417	98265-2-230	SK294186-2-230
.231 - .240	.427	98265-2-240	SK294186-2-240





PINS



Part Number	Material
99836	Steel
SK99836S	Stainless

RECEPTACLE

Steel Part No.
99947P130

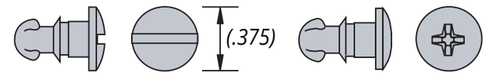


GROMMET

Steel Part No.
295250-1



SOUTHCO
No. 82 Series
1/4 Turn Fasteners
Oval Head



DACROTIZED Slotted Part #	DACROTIZED Phillips Part #	STAINLESS Slotted Part #	STAINLESS Phillips Part #
82-11-100-16	82-19-100-16	82-11-100-20	82-19-100-20
82-11-120-16	82-19-120-16	82-11-120-20	82-19-120-20
82-11-140-16	82-19-140-16	82-11-140-20	82-19-140-20
82-11-160-16	82-19-160-16	82-11-160-20	82-19-160-20
82-11-180-16	82-19-180-16	82-11-180-20	82-19-180-20
82-11-200-16	82-19-200-16	82-11-200-20	82-19-200-20
82-11-220-16	82-19-220-16	82-11-220-20	82-19-220-20

NO. 82 STUD SELECTION CHART

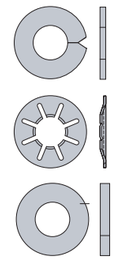
Total Material Thickness	Stud Size
.090-.109	100
.110-.129	120
.130-.149	140
.150-.169	160
.170-.189	180
.190-.209	200
.210-.229	220

RETAINERS

82-32-101-20
Split Ring - Stainless

82-32-201-20
Push-On - Stainless

82-32-301-12
Thermoplastic - Black



WASHERS

82-43-201-38
Black Synthetic Rubber

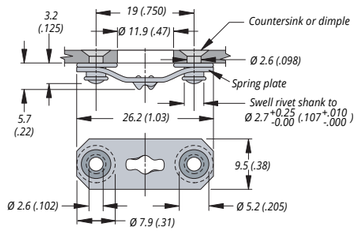
82-46-101-39
Thermoplastic Cupped Wear Washer



LEAF SPRING RECEPTACLES

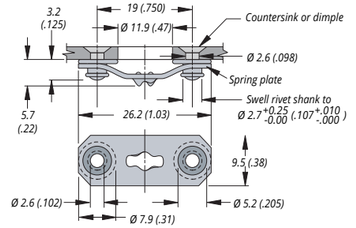
For riveting
- with base

82-35-302-15

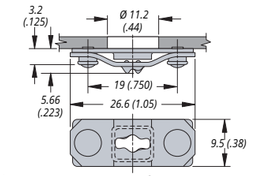


For riveting
- without base

Steel
82-35-295-15
Stainless
82-35-295-20



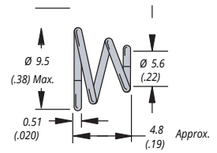
For welding
82-35-303-15



Rivet must not melt over onto spring.

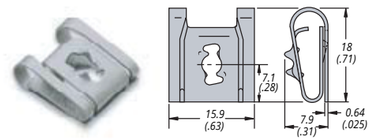
EJECTOR SPRING

43-13-1-24
Ejector Spring



CLIP-ON RECEPTACLE

82-47-113-15
Steel

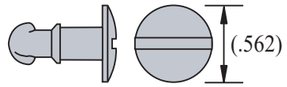


⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

SOUTHCO

No. 85 Series
1/4 Turn Fasteners
Slotted, Oval Head



DACROTIZED Part #	STAINLESS Part #
85-11-120-16	85-11-120-20
85-11-140-16	85-11-140-20
85-11-160-16	85-11-160-20
85-11-180-16	85-11-180-20
85-11-200-16	85-11-200-20
85-11-220-16	85-11-220-20
85-11-240-16	85-11-240-20
85-11-260-16	85-11-260-20

RETAINERS

85-34-101-20
Split Ring, Stainless



85-34-201-20
Push-On, Stainless



85-34-301-12
Nylon, Black



WASHERS

85-43-201-38
Sealing Washer



85-46-101-39
Cupped Natural Wear Washer



85-46-101-41
Cupped Black Wear Washer

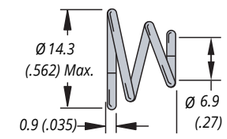


85-46-103-39
Flat Wear Washer



EJECTOR SPRING

14-18-150-24/5
Ejector Spring

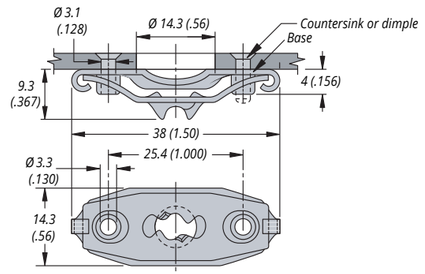


NO. 85 STUD SELECTION CHART

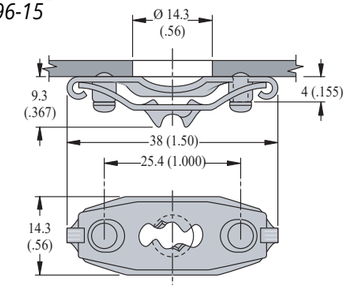
Total Material Thickness	Stud Size
.090-.109	100
.110-.129	120
.130-.149	140
.150-.169	160
.170-.189	180
.190-.209	200
.210-.229	220
.230-.249	240
.250-.269	260
.270-.289	280
.290-.309	300

LEAF SPRING RECEPTACLES

For riveting
85-35-295-15 - ***Steel***
85-35-295-20 - ***Stainless***

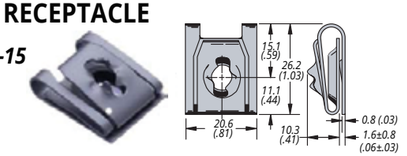


For welding
85-35-296-15



CLIP-ON RECEPTACLE

85-47-101-15
Steel



AN960 / NAS1149 CROSS REFERENCE CHART

CARBON STEEL		CORROSION RESISTANT STEEL		ANODIZED ALUMINUM	
AN960	NAS1149	AN960	NAS1149	AN960	NAS1149
2L	FN216P	C2L	CN216R	JD2L	DN216J
2	FN232P	C2	CN232R	JD2	DN232J
3L	FN316P	C3L	CN316R	JD3L	DN316J
3	FN332P	C3	CN332R	JD3	DN332J
4L	FN416P	C4L	CN416R	JD4L	DN416J
4	FN432P	C4	CN432R	JD4	DN432J
5	FN542P	C5	CN542R	JD5	DN542J
6L	FN616P	C6L	CN616R	JD6L	DN616J
6	FN632P	C6	CN632R	JD6	DN632J
8L	FN816P	C8L	CN816R	JD8L	DN816J
8	FN832P	C8	CN832R	JD8	DN832J
10L	F0332P	C10L	C0332R	JD10LL	D0316J
10	F0363P	C10	C0363R	JD10L	D0332J
416L	F0432P	C416L	C0432R	JD10	D0363J
416	F0463P	C416	C0463R	JD416L	D0416J
516L	F0532P	C516L	C0532R	JD416	D0463J
516	F0563P	C516	C0563R	JD516L	D0516J
616LL	F0616P	C616L	C0632R	JD516	D0563J
616L	F0632P	C616	C0663R	JD616L	D0616J
616	F0663P	C716L	C0732R	JD616	D0663J
716L	F0732P	C716	C0763R	JD716L	D0716J
716	F0763P	C816L	C0832R	JD716	D0763J
816L	F0832P	C816	C0863R	JD816L	D0816J
816	F0863P	C916L	C0932R	JD816	D0863J
916L	F0932P	C916	C0963R	JD916L	D0916J
916	F0963P	C1016L	C1032R	JD916	D0963J
1016L	F1032P	C1016	C1063R	JD1016L	D1016J
1016	F1063P	C1216L	C1232R	JD1016	D1063J
1216L	F1232P	C1216	C1290R	JD1216L	D1216J
1216	F1290P	C1416L	C1432R	JD1216	D1290J
1416L	F1432P	C1416	C1490R	JD1416L	D1416J
1416	F1490P	C1616L	C1632R	JD1416	D1490J
1616L	F1632P	C1616	C1690R	JD1616L	D1616J
1616	F1690P	---	- --	JD1616	D1690J

ALUMINUM ALLOY		ANODIZED ALUMINUM ELECTRICALLY NONCONDUCTIVE		CORROSION RESISTANT BLACK OXIDE COATING	
AN960	NAS1149	AN960	NAS1149	AN960	NAS1149
D2L	DN216H	KD2L	DN216K	XC2L	CN216B
D2	DN232H	KD2	DN232K	XC2	CN232B
D3L	DN316H	KD3L	DN316K	XC3L	CN316B
D3	DN332H	KD3	DN332K	XC3	CN332B
D4L	DN416H	KD4L	DN416K	XC4L	CN416B
D4	DN432H	KD4	DN432K	XC4	CN432B
D5	DN542H	KD5	DN542K	XC5	CN542B
D6L	DN616H	KD6L	DN616K	XC6L	CN616B
D6	DN632H	KD6	DN632K	XC6	CN632B
D8L	DN816H	KD8L	DN816K	XC8L	CN816B
D8	DN832H	KD8	DN832K	XC8	CN832B
D10L	D0316H	KD10LL	D0316K	XC10LL	C0316B
D10	D0363H	KD10L	D0332K	XC10L	C0332B
D416L	D0416H	KD10	D0363K	XC10	C0363B
D416	D0463H	KD416L	D0416K	XC416L	C0432B
D516L	D0516H	KD416	D0463K	XC416	C0463B
D516	D0563H	KD516L	D0516K	XC516L	C0532B
D616L	D0616H	KD516	D0563K	XC516	C0563B
D616	D0663H	KD616L	D0616K	XC616L	C0632B
D716L	D0716H	KD616	D0663K	XC616	C0663B
D716	D0763H	KD716L	D0716K	XC716L	C0732B
D816L	D0816H	KD716	D0763K	XC716	C0763B
D816	D0863H	KD816L	D0816K	XC816L	C0832B
D916L	D0916H	KD816	D0863K	XC816	C0863B
D916	D0963H	KD916L	D0916K	XC916L	C0932B
D1016L	D1016H	KD916	D0963K	XC916	C0963B
D1016	D1063H	KD1016L	D1016K	XC1016L	C1032B
D1216L	D1216H	KD1016	D1063K	XC1016	C1063B
D1216	D1290H	KD1216L	D1216K	XC1216L	C1232B
D1416L	D1416H	KD1216	D1290K	XC1216	C1290B
D1416	D1490H	KD1416L	D1416K	XC1416L	C1432B
D1616L	D1616H	KD1416	D1490K	XC1416	C1490B
D1616	D1690H	KD1616L	D1616K	---	---
---	---	KD1616	D1690K	---	-- -

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

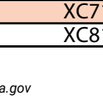
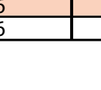
AN960
Airframe Washer, (Per 100)




To Fit Dia.	CARBON STEEL		CORROSION RESISTANT	
	AN960# Std. Thickness	AN960#L Light	AN960C Std. Thickness	AN960C#L Light
# 2	2	2L	C2	C2L
# 3	3	3L	C3	C3L
# 4	4	4L	C4	C4L
# 6	6	6L	C6	C6L
# 8	8	8L	C8	C8L
# 10	10	10L	C10	C10L
1/4	416	416L	C416	C416L
5/16	516	516L	C516	C516L
3/8	616	616L	C616	C616L
7/16	716	716L	C716	C716L
1/2	816	816L	C816	C816L
9/16	916	916L	C916	C916L
5/8	1016	1016L	C1016	C1016L
3/4	1216	1216L	C1216	C1216L
7/8	1416	1416L	C1416	C1416L

(MOST AN960 SERIES WASHERS SOLD BY MONROE AEROSPACE ARE DUALLY CERTIFIED TO BOTH AN960 AND NAS1149 SERIES)

AN960
Airframe Washer, Aluminum (Per 100)

To Fit Dia	ANODIZED FINISH		NATURAL FINISH	
	AN960JD Std. Thickness	AN960JD#L Light	AN960D# Std. Thickness	AN960D#L Light
# 3	JD3	JD3L	D3	D3L
# 4	JD4	JD4L	D4	D4L
# 6	JD6	JD6L	D6	D6L
# 8	JD8	JD8L	D8	D8L
# 10	JD10	JD10L	D10	D10L
1/4	JD416	JD416L	D416	D416L
5/16	JD516	JD516L	D516	D516L
3/8	JD616	JD616L	D616	D616L
7/16	JD716	JD716L	D716	D716L
1/2	JD816	JD816L	D816	D816L
9/16	JD916	JD916L	D916	D916L
5/8	JD1016	JD1016L	D1016	D1016L
3/4	JD1216	JD1216L	---	---

AN960
Airframe Washer, Black Oxide Coat Cover Corrosion Resistant Steel (Per 100)



To Fit Dia	AN960XC Std. Thickness	AN960XC#L Light
# 4	XC4	XC4L
# 6	XC6	XC6L
# 8	XC8	XC8L
# 10	XC10	XC10L
1/4	XC416	XC416L
5/16	XC516	XC516L
3/8	XC616	XC616L
7/16	XC716	XC716L
1/2	XC816	XC816L

AN960
Airframe Washer, Anodized Aluminum Anodized per MIL-A-8625 (Per 100)



To Fit Dia	AN960KD Std. Thickness	AN960KD#L Light
# 4	KD4	KD4L
# 6	KD6	KD6L
# 8	KD8	KD8L
# 10	KD10	KD10L
1/4	KD416	KD416L
5/16	KD516	KD516L
3/8	KD616	KD616L
7/16	KD716	KD716L
1/2	KD816	KD816L

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN970
Wide Area Washer



Bolt Size	AN970	AN970
AN3	3	C3S
AN4	4	C4S
AN5	5	C5S
AN6	6	C6S
AN7	7	C#S FOR 304 CORROSION RESISTANT STEEL (SPECIAL)
AN8	8	
AN9	9	
AN10	10	

MS20002
High Strength Washer



To Fit Dia	PLAIN MS20002	COUNTERSUNK MS20002
1/4	4	C4
5/16	5	C5
3/8	6	C6
7/16	7	C7
1/2	8	C8
9/16	9	C9
5/8	10	C10
3/4	12	C12

NAS1169
Structural Washer
100^0 Dimpled Washer



Diameter	CARBON STEEL		CORROSION RESISTANT		ALUMINUM	
	NAS1169	NAS1169	NAS1169	NAS1169	NAS1169	NAS1169
#6	-6	-6L	C6	C6L	DD6	DD6L
#8	-8	-8L	C8	C8L	DD8	DD8L
#10	-10	-10L	C10	C10L	DD10	DD10L
# 416	-416	-416L	C416	C416L	DD416	DD416L

CA3105
Fairing Washer Assembly
Non-structural



Thread	Length	CA3105
6-32	3/8	632-6
	1/2	632-8
8-32	1/2	832-8
	5/8	832-10
10-32	1/2	1032-8
	9/16	1032-9
	5/8	1032-10
	11/16	1032-11
	3/4	1032-12

MS9549
Flat Washer
Corrosion Resistant Steel, AMS 5510



Part Number	Nominal Size	A Dia. ±.005	B Dia. ±.005
MS9549-08	.164	.184	.375
MS9549-09	.190	.213	.438
MS9549-10	.250	.276	500

NAS390
NAS391
Interior Finishing Washer



To Fit Dia.	FLUSH Part #	COUNTERSUNK Part #
#4	NAS390B4P	NAS391B4P
#6	NAS390B6P	NAS391B6P
#8	NAS390B8P	NAS391B8P
#10	NAS390B10P	NAS391B10P

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS35333 (AN936A)

Lockwasher, Internal Tooth
"P" Designates Cad II Plating




To Fit Dia.	CARBON STEEL		CORROSION RESISTANT	
	MS35333	AN936	MS35333	AN936
#2	35P	A2	69	A2C
#4	36P	A4	70	A4C
#6	37P	A6	71	A6C
#8	38P	A8	72	A8C
#10	39P	A10	73	A10C
1/4	40P	A416	74	A416C
5/16	41P	A516	75	A516C
3/8	42P	A616	76	A616C
7/16	43P	A716	77	A716C
1/2	44P	A816	78	A816C
9/16	45P	A916	79	A916C

MS35335 (AN936B)

Lockwasher
External Tooth



To Fit Dia.	MS35335	AN936
#4	-29	B4
#6	-30	B6
#8	-31	B8
#10	-32	B10
1/4	-33	B416
5/16	-34	B516
3/8	-35	B616
7/16	-36	B716
1/2	-37	B816

MS35338 (AN935)

Split Washer
"M" Indicates Zinc Yellow



CARBON STEEL		CORROSION RESISTANT
MS35338	AN935	MS35338
-40M	-4	-135
-41M	-6	-136
-42M	-8	-137
-43M	-10	-138
-44M	-416	-139
-45M	-516	-140
-46M	-616	-141
-47M	-716	-----
-48M	-816	-----

TINNERMAN WASHER

100° Countersunk. Rohs Compliant.
Dash # -193 is New Revision / Supercedes Dash -24A



To Fit Dia.	Thickness	CARBON STEEL	STAINLESS STEEL
		Part #	Part #
#6	.012	A3236-012-193	EC1075-012-06SS
#8	.017	A3135-017-24A	EC1080-017-08SS
#10	.020	A3235-020-193	EC1085-020-10SS
#10	.028	A3235-028-193	----------

INTERIOR FINISHING WASHER

601-# & 603-#




To Fit Dia.	Countersunk	Flush
	601	603
#4	-4	-4
#6	-6	-6
#8	-8	-8
#10	-10	-10

AN975

Taper Pin Washer



To Fit Diameter	Part #
#10	AN975-3
#1/4	AN975-4
#5/16	AN975-5

MS9581

Key Washer
Corrosion Resistant,
90° Locking



Diameter	MS9581
.190	-09
.250	-10

MS9320

Nickel Cad Plated
Steel Washer



Diameter	MS9320
.164	.08
.190	-09
.250	-10
.312	-11
.375	-12

MS9276

Key Washer
Corrosion Resistant,
180° Locking



Diameter	MS9276
.190	-09
.250	-10
.312	-11

MS9582

Key Washer
Corrosion Resistant,
270° Locking



Diameter	MS9582
.190	-09
.250	-10
.312	-11

MS9321

Corrosion Resistant
Washer



Diameter	MS9321
.125	-06
.164	-08
.190	-09
.250	-10
.312	-11

NAS549

Non-Metallic Washer
Insulating, Electrical
Absence of " F " indicates Phenolic Paper
"F " after basic # indicates Fiber Insulation
"L " indicates .031 Thickness



To Fit Diameter	Part #	Part #	Part #
#6	NAS549F6	NAS549FL6	NAS549L6
#8	NAS549F8	NAS549FL8	NAS549L8
#10	NAS549F10	NAS549FL10	NAS549L10

A1638-5

Vulcanized Fiber
Bone White



To Fit Dia.	Thickness
.190	.031

140-001-#

Aluminum Washer



Part #	I.D.	O.D.	Thickness
140-001-1	.140	.438	.032
140-001-3	.124	.500	.040
140-001-5	.203	.625	.040
140-001-9	.140	.3125	.032
140-001-11	.110	.3125	.032

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

NAS620

Flat Washer
Thickness .032 / .016(L)



To Fit Dia.	CARBON STEEL		CORROSION RESISTANT		ALUMINUM ALLOY	
	NAS620	NAS620	NAS620	NAS620	NAS620	NAS620
.1120	-4	-4L	C4	C4L	A4	A4
.1380	-6	-6L	C6	C6L	A6	A6
.1640	-8	-8L	C8	C8L	A8	A8
.1900	-10	-10L	C10	C10L	A10	A10
.2500	-416	-416L	C416	C416L	A416	A416

NAS1252

Aluminum Washer

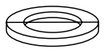
To Fit Dia.	.032 THICKNESS	.063 THICKNESS
	NAS1252	NAS1252
# 4	-4L	-4H
# 6	-6L	-6H
# 8	-8L	-8H
# 10	-10L	-10H
# 1/4	-416L	-416H



NAS1515

Nylon Washer "H"
Teflon Washer "M"
Thickness .063 / .031





To Fit Dia.	NYLON WASHER		TEFLON WASHER	
	NAS1515	NAS1515	NAS1515	NAS1515
.1120	H04L	H04	M04L	M04
.1380	H06L	H06	M06L	M06
.1640	H08L	H08	M08L	M08
.1900	H3L	H3	M3L	M3
.2500	H4L	H4	M4L	M4

NAS1197

Aluminum Alloy Washer

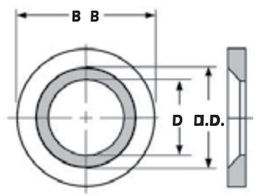
I.D.	NAS1197	THICKNESS	NAS1197	THICKNESS
#6	-6	.032	-6L	.016
#8	-8	.032	-8L	.016
#10	-10	.063	-10L	.016
1/4	-416	.063	-416L	.016
5/16	-516	.063	-516L	.016
3/8	-616	.063	-616L	.016



MS21206C

Corrosion Resistant Washer
45° Countersunk Design
Alloy Steel, Cadmium Plate Type II, Class 2

Nominal Size	MS21206	B Max	D Max	I.D. Max
#10	C3	.372	.195	.290
1/4	C4	.470	.255	.350
5/16	C5	.573	.318	.412
3/8	C6	.679	.380	.507
1/2	C8	.898	.505	.632





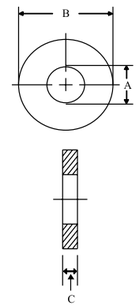
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS15795

Flat Washer
Corrosion Resistant Steel



MS15795-	A	B	C
801	.078	.188	.020
802	.094	.250	.020
803	.125	.250	.022
804	.125	.312	.032
805	.156	.312	.035
806	.156	.375	.049
845	.172	.281	.031
856	.172	.312	.031
807	.188	.375	.049
841	.188	.438	.049
846	.203	.375	.020
847	.203	.562	.032
849	.203	.625	.040
808	.219	.438	.049
842	.219	.500	.049
809	.250	.562	.065
810	.281	.625	.065
811	.312	.734	.065
812	.344	.688	.065

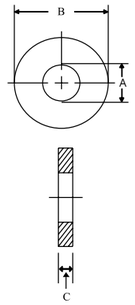


MS27183

Flat Washer
Steel (Cad II Plating)



MS27183-	A	B	C
3	.125	.250	.022
4	.125	.312	.032
5	.156	.312	.035
43	.156	.250	.016
6	.156	.375	.049
7	.188	.375	.049
8	.219	.438	.049
42	.219	.500	.049
9	.250	.562	.065
10	.281	.625	.065
11	.312	.734	.065
12	.344	.688	.065
13	.375	.875	.083
14	.406	.812	.065
15	.438	1.0	.083
16	.469	.922	.065
17	.500	1.25	.083



MS21299

Washer, Plain & Countersunk

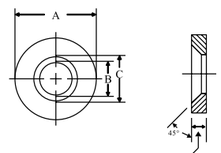
Nominal Size	Dash #		A Outside Diameter	B Inside Diameter	C Csk. Diameter
	Csk	Plain			
.1900	C3	3	.382	.193	.285
.2500	C4	4	.486	.253	.345
.3125	C5	5	.593	.316	.407
.3750	C6	6	.707	.378	.502
.4375	C7	7	.826	.441	.564
.5000	C8	8	.945	.503	.627



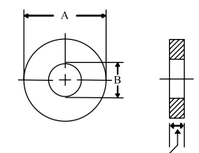
Countersunk



Plain



0.057 - 0.069



0.057 - 0.069

NAS1587

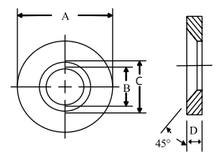
High Temp. Washer (1200°F)
Plain & Countersunk



Dash #	Thread Size	A Outside Dia.	B Inside Dia.	C Csk. Dia.	D Thickness Csk.	T Thickness Csk.
A3C	.1900	.469	.195	.270	.062	N/A
3	.1900	.469	.195	N/A	N/A	.032
4	.2500	.531	.256	.339	.078	.062
5	.3125	.593	.320	.401	.078	.062
6	.3750	.687	.383	.489	.078	.062
7	.4375	.781	.446	.550	.078	.062
8	.5000	.875	.509	.612	.078	.062

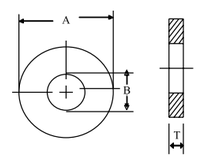
Dash number designates thread size
Add "C" after dash number for countersunk
Add "L" after dash number for plain light washer.
Thickness = ½ T (Not applicable to countersunk washer).

NASI587C



Countersunk

NASI587



Plain

Light washer ½ T (see above)

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

PLUG BUTTON
OLD NAS451-#

1010 STEEL

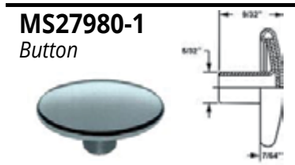


Part #	For Your Reference Only NAS451-#	Hole	Panel Thickness	Head Diameter	Head Thickness	# of Prongs
SS48192	**NAS451-7**	0.375	.037-.078	0.500	0.062	6
SS51003	**NAS451-8**	0.391	.078-.093	0.500	0.062	
SS51043	**NAS451-10**	0.438	.037-.047	0.656	0.078	8
SS51051	**NAS451-11**	0.469	.083-.125	0.625	0.062	
SS48152	**NAS451-43**	0.500	.037-.062	0.656	0.078	
SS48172	**NAS451-16**	0.625	.062-.078	0.797	0.078	
SS50727	**NAS451-46**	0.688	.037-.062	0.875	0.078	12
SS51026	**NAS451-17**	0.750	.037-.093	0.938	0.094	
SS48165	**NAS451-48**	0.750	.078-.109	0.938	0.094	
SS51045	**NAS451-18**	0.812	.048-.078	1.063	0.062	
SS50685	**NAS451-49**	0.875	.094-.171	1.063	0.078	
SS48155	**NAS451-56**	0.875	.031-.093	1.063	0.062	
SS50726	**NAS451-30**	1.250	.062-.093	1.438	0.094	
SS51058	**NAS451-31**	1.375	.037-.078	1.562	0.094	
SS48132	**NAS451-54**	1.375	.109-.141	1.562	0.094	
SS50834	**NAS451-55**	1.500	.038-.141	1.641	0.094	
SS50841	**NAS451-33**	1.625	.062-.078	1.797	0.125	
SS50890	**NAS451-58**	1.750	.037-.094	1.938	0.125	

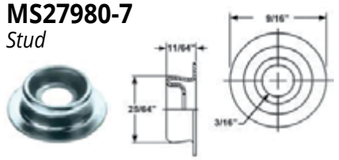
MS27980 SNAP FASTENERS

Style 2, Available in Bright Brass, Gov't Black, & Nickel Plate

MS27980-1
Button



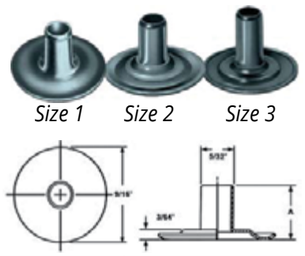
MS27980-7
Stud



MS27980-6
Socket



Eyelets *Size 2 & 3 Not avail. in brass*

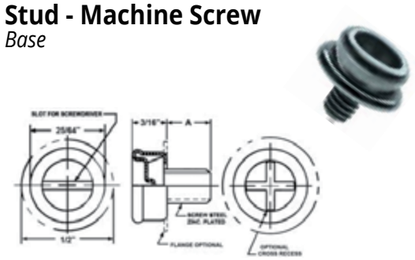


Size 1 *Size 2* *Size 3*

**** When ordering Snap Fasteners ****
At the end of the part # place a:
B for Gov't Black finish
N for Nickel Plate finish
Leave blank for Brass finish

Part #	Size	A Dim.
MS27980-8	1	9/32"
MS27980-9	2	11/32"
MS27980-10	3	13/32"

Stud - Machine Screw
Base



Part #	A Dim.	Size
MS27980-12	5/16"	1
MS27980-13	3/8"	2
MS27980-14	5/8"	3

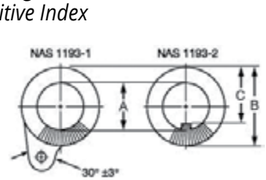
Stud-Eyelet Combo

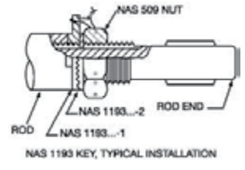


Part #	Length	Size
MS27980-26	11/32"	1
MS27980-27	25/64"	2

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1193
Locking Device
Positive Index



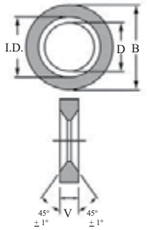


NAS 1193 KEY, TYPICAL INSTALLATION

To Fit Dia.	A Dia.	B Dia.	C	NAS1193
.2500-28	.260	.44	.211	K4C
.3125-24	.323	.50	.270	K5C
.3750-24	.385	.56	.321	K6C
.4375-20	.448	.63	.380	K7C

MS14155
Washer, Recessed Countersunk On Both Surfaces, Used with Wheel Bolts and Nuts Up to & including 180KSI





MS14155	Nominal Size	B +.005	D +.002	I.D. +.005	V
-4	1/4	.500	.253	.342	.119± .005
-5	5/16	.615	.316	.404	.119± .005
-6	3/8	.761	.378	.499	.151± .007
-7	7/16	.873	.441	.561	.151± .007
-8	1/2	.999	.503	.624	.156± .007

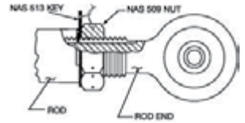
MS16562
Spring Pin, Tubular, Slotted

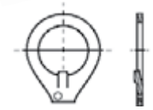


Length	Corrosion Resistant Steel Diameter & Dash #				Carbon Steel Dia. & Dash #	
	.062	.094	.125	.188	.094	.125
.250	-190	-209	----	----	---	---
.312	-191	-210	----	----	-22	---
.375	-192	-211	-219	----	-23	-31
.438	-193	-212	-220	-233	---	-32
.500	-194	-213	-221	-234	-25	-33
.562	-195	-214	----	----	-26	-34
.625	-196	-215	-223	-235	-27	-35
.750	----	-216	-224	-236	-28	-36
.875	----	----	----	----	-29	-37
1.00	----	-218	-226	----	-30	-38

NAS513
Washer-Rod End Locking







Terminal Thread Size	NAS513
1/4-28	4
5/16-24	5
3/8-24	6
1/2-20	8
5/8-18	10

MS16624
MS16625
Retaining Rings

MS16624



MS16625



Basic Inverted MS16624		Basic Internal MS16625	
-1025	-1100	-1025	-1118
-1031	-4025	-1031	-1125
-1037	-4031	-1037	-1143
-1040	-4037	-1043	-1150
-1043	-4043	-1050	-1168
-1050	-4050	-1062	-1187
-1062	-5012	-1068	-1200
-1066	-5012-1	-1090	-1206
-1087	-5018-1	-1112	-4125

MS9245
Cotter Pin Corrosion & Heat Resistant Steel



Length	1/16" Dia.	3/32" Dia.	1/8" Dia.
1/4"	MS9245-21	-----	-----
5/16"	MS9245-22	-----	-----
3/8"	MS9245-23	-----	-----
7/16"	MS9245-24	-----	-----
1/2"	MS9245-25	MS9245-42	-----
9/16"	MS9245-26	-----	-----
5/8"	MS9245-27	MS9245-44	-----
3/4"	MS9245-28	MS9245-45	-----
7/8"	MS9245-29	MS9245-46	-----
1"	MS9245-30	MS9245-47	MS9245-64
1-1/8"	-----	MS9245-48	-----
1-1/4"	-----	MS9245-49	-----
1-1/2"	-----	-----	MS9245-68
2"	-----	-----	MS9245-71

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

COTTER PIN MS24665

(AN380, AN381)



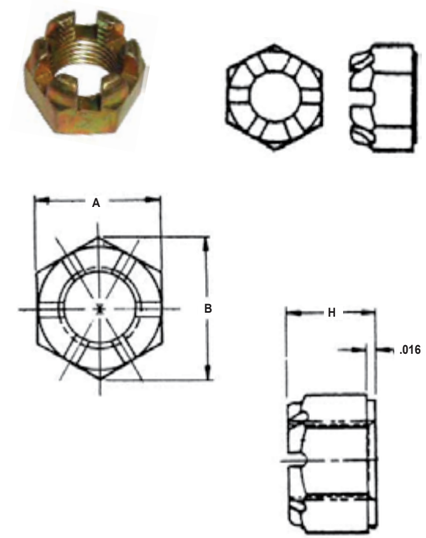
Diameter	Length	CARBON STEEL		CORRISION RESISTANT STEEL	
		MS24665	AN380	MS24665	AN381
1/32	---	---	---	18	1-4
	1/2″	5	1-2	22	1-8
	3/4″	7	1-3	24	1-12
	1″	9	1-4	26	1-16
	1-1/4″	10	1-5	27	1-20
	1-1/2″	---	1-6	28	1-24
3/64	1/4″	65	---	82	---
	1/2″	69	---	86	15-8
	3/4″	71	---	88	15-12
	1″	73	---	90	15-16
1/16	1/4″	---	---	1011	2-5
	3/8″	---	2-1	1012	2-6
	7/16″	---	---	1013	2-7
	1/2″	132	2-2	151	2-8
	3/4″	134	2-3	153	2-12
	1″	136	2-4	155	2-16
	1-1/4″	138	2-5	157	2-20
	1-1/2″	140	2-6	159	2-24
	1-3/4″	142	2-7	161	2-28
	2′	143	2-8	162	2-32
	2-1/2″	144	2-10	163	2-40
	3″	145	2-12	164	2-48
5/64	1/2″	208	---	227	25-8
	3/4″	210	---	229	25-12
	1″	212	---	231	25-16
	1-1/4″	214	---	233	25-20
	1-1/2″	216	---	235	25-24
	1-3/4″	218	---	237	25-28
	2″	219	---	238	25-32
3/32	1/2″	281	3-2	298	3-8
	3/4″	283	3-3	300	3-12
	1″	285	3-4	302	3-16
	1-1/4″	287	3-5	304	3-20
	1-1/2″	289	3-6	306	3-24
	1-3/4″	291	3-7	308	3-28
	2″	292	3-8	309	3-32
	2-1/4″	293	3-9	310	3-36
	2-1/2″	294	3-10	311	3-40
	3″	295	3-12	312	3-48
1/8	1/2″	349	4-2	366	4-8
	3/4″	351	4-3	368	4-12
	1″	353	4-4	370	4-16
	1-1/4″	355	4-5	372	4-20
	1-1/2″	357	4-6	374	4-24
	1-3/4″	359	4-7	376	4-28
	2″	360	4-8	377	4-32
	2-1/4″	361	---	378	4-36
	2-1/2″	362	4-10	379	4-40
	3″	363	4-12	380	4-48
5/32	1-1/4″	421	5-5	439	5-20
	1-1/2″	423	5-6	441	5-24
	1-3/4″	425	5-7	443	5-28
	2″	426	5-8	444	5-32
	2-1/2″	428	5-10	446	5-40
	2-3/4″	429	5-11	447	5-44
	3″	430	5-12	448	5-48
	3-1/2″	431	5-14	449	5-56
	4″	432	5-16	450	5-64

AN310

Castellated Nut

AN310	THREAD T	ULTIMATE TENSILE STRENGTH MIN LBS. STEEL	A +.002 -.010	B	H
AN310-3	10-32	2,210	.375	7/16	1/4
AN310-4	1/4-28	4,080	.438	1/2	9/32
AN310-5	5/16-24	6,500	.500	37/64	21/64
AN310-6	3/8-24	10,100	.563	21/32	13/32
AN310-7	7/16-20	13,600	.625	23/32	29/64
AN310-8	1/2-20	18,500	.750	7/8	9/16
AN310-9	9/16-18	23,600	.875	1-1/64	39/64
AN310-10	5/8-18	30,100	1.000	1-5/32	23/32

Thread Size	CARBON STEEL AN310	CORROSION RESISTANT AN310
10-32	3	C3
1/4-28	4	C4
5/16-24	5	C5
3/8-24	6	C6
7/16-20	7	C7
1/2-20	8	C8
9/16-18	9	C9
5/8-18	10	C10

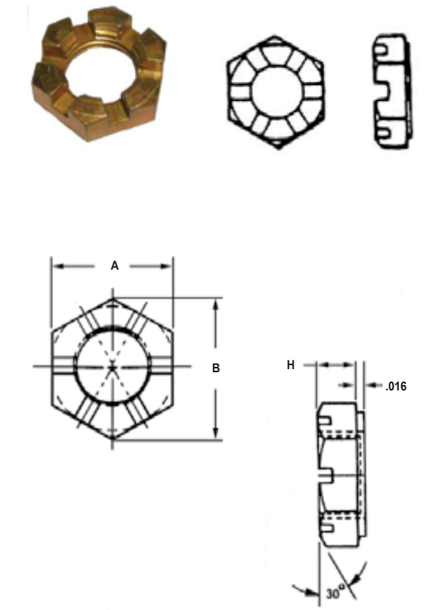


AN320

Shear Castellated Nut

AN320	THREAD T	ULTIMATE TENSILE STRENGTH MIN LBS. STEEL	A +.002 -.010	B	H
AN320-1	.1380-40	--	.313	.359	.156
AN320-2	.1640-32	--	.344	.391	.156
AN320-3	.1900-32	1,105	.375	.438	.188
AN320-4	.2500-28	2,040	.438	.500	.188
AN320-5	.3125-24	3,250	.500	.578	.188
AN320-6	.3750-24	5,050	.563	.656	.219
AN320-7	.4375-20	6,800	.625	.719	.219
AN320-8	.5000-20	9,250	.750	.875	.250
AN320-9	.5625-18	11,800	.875	1.016	.313
AN320-10	.6250-18	15,050	1.000	1.156	.313

Thread Size	CARBON STEEL AN320	CORROSION RESISTANT AN320
6-40	1	C1
8-32	2	C2
10-32	3	C3
1/4-28	4	C4
5/16-24	5	C5
3/8-24	6	C6
7/16-20	7	C7
1/2-20	8	C8
9/16-18	9	C9
5/8-18	10	C10



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS17825

Self Locking Castellated Nut
Nonmetallic Insert



SIZE DASH NO.	THREAD MIL-S-8879	A		B		C	ULTIMATE TENSILE STRENGTH LB MIN	TEST WRENCHING TORQUE (INCH LBS) MIN
		MIN	MAX	MAX	MIN	MIN		
3	.1900-32	.265	.235	.376	.367	.410	1,950	35
4	.2500-28	.296	.266	.439	.430	.482	3,500	80
5	.3125-24	.343	.313	.502	.492	.552	5,500	225
6	.3750-24	.421	.391	.564	.553	.622	9,000	325
7	.4375-20	.468	.438	.690	.679	.766	12,200	575
8	.5000-20	.578	.548	.752	.741	.837	16,600	900
9	.5625-18	.624	.594	.877	.865	.978	21,200	1,100
10	.6250-18	.734	.704	.940	.928	1.051	27,400	1,600
12	.7500-16	.828	.798	1.064	1.052	1.191	40,000	2,800

MS17826

Self Locking Castellated Nut
Low Height, Nonmetallic Insert



SIZE DASH NO.	THREAD MIL-S-8879	A		B		C	ULTIMATE TENSILE STRENGTH LB MIN	TEST WRENCHING TORQUE (INCH LBS) MIN
		MAX	MIN	MAX	MIN	MIN		
3	.1900-32	.203	.173	.376	.367	.410	1,000	20
4	.2500-28			.439	.430	.482	1,800	45
5	.3125-24			.502	.492	.552	2,900	90
6	.3750-24	.234	.204	.564	.553	.622	4,100	125
7	.4375-20			.690	.679	.766	5,000	225
8	.5000-20	.265	.235	.752	.741	.837	5,600	300
9	.5625-18	.328	.298	.877	.865	.978	7,800	400
10	.6250-18			.940	.928	1.051	10,000	600
12	.7500-16	.390	.360	1.064	1.052	1.191	15,500	1,100

Thread Size	MS17825	MS17826
#10-32	3	3
1/4-28	4	4
5/16-24	5	5
3/8-24	6	6
7/16-20	7	7
1/2-20	8	8
9/16-18	9	9
5/8-18	10	10
3/4-16	12	12

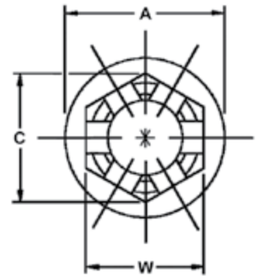
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

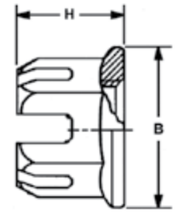
MS14144



Self Locking Castellated Nut
Lightweight, 450° F

DASH NUMBER		THREAD MIL-S-8879	A	B	C	H		W	
NON DRY LUBE	DRY LUBE		MAX	MIN	MIN	MAX	MIN	MAX	MIN
3	L3	.1900-32	.325	.291	.277	.265	.235	.252	.243
4	L4	.2500-28	.420	.386	.348	.296	.266	.315	.305
5	L5	.3125-24	.520	.482	.419	.343	.313	.378	.367
6	L6	.3750-24	.579	.539	.480	.421	.391	.440	.429
7	L7	.4375-20	.645	.600	.552	.468	.438	.504	.492
8	L8	.5000-20	.770	.725	.623	.578	.548	.566	.554
9	L9	.5625-18	.850	.815	.765	.624	.594	.692	.678
10	L10	.6250-18	.910	.875	.836	.734	.704	.755	.741





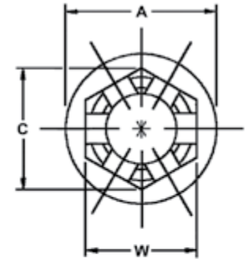
Thread Size	MS14144
.1900-32	L3
.2500-28	L4
.3125-24	L5
.3750-24	L6
.4375-20	L7
.5000-20	L8
.5625-18	L9
.6250-18	L10

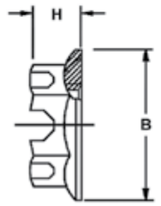
MS14145



Self-Locking Castellated Nut
Thin, Lightweight, 450°

DASH NUMBER		THREAD MIL-S-8879	A	B	C	H		W	
NON DRY LUBE	DRY LUBE		MAX	MIN	MIN	MAX	MIN	MAX	MIN
3	L3	.1900-32	.325	.291	.277	.203	.173	.252	.243
4	L4	.2500-28	.420	.386	.348	.203	.173	.315	.305
5	L5	.3125-24	.520	.482	.419	.203	.173	.378	.367
6	L6	.3750-24	.579	.539	.480	.234	.204	.440	.429
7	L7	.4375-20	.645	.600	.552	.234	.204	.504	.492
8	L8	.5000-20	.770	.725	.623	.265	.235	.566	.554
9	L9	.5625-18	.850	.815	.765	.328	.298	.692	.678
10	L10	.6250-18	.910	.875	.836	.328	.298	.755	.741





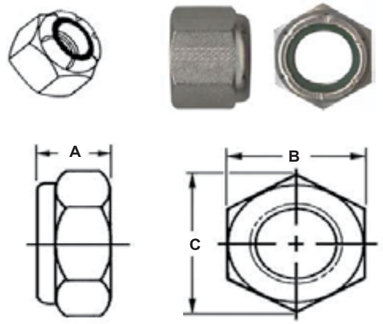
Thread Size	MS14145
.1900-32	L3
.2500-28	L4
.3125-24	L5
.3750-24	L6
.4375-20	L7
.5000-20	L8
.5625-18	L9
.6250-18	L10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21044

Self Locking Nut, Regular Height, Nylon Insert, 250°F

MS21044 NON-METALLIC INSERT			THREAD MIL-S-8879	A		B		C
AL ALLOY	STEEL	CRES		MAX	MIN	MAX	MIN	MIN
D04	N04	C04	.1120-40	.157	.133	.251	.243	.268
D06	N06	C06	.1380-32	.188	.160	.313	.305	.339
D08	N08	C08	.1640-32	.281	.219	.345	.336	.374
D3	N3	C3	.1900-32	.281	.208	.376	.367	.410
D4	N4	C4	.2500-28	.360	.240	.439	.430	.482
D5	N5	C5	.3125-24	.360	.271	.502	.492	.552
D6	N6	C6	.3750-24	.469	.318	.564	.553	.622
D7	N7	C7	.4375-20	.469	.435	.690	.679	.766
D8	N8	C8	.5000-20	.610	.575	.752	.741	.837
D9	N9	C9	.5625-18	.704	.623	.877	.865	.978
D10	N10	C10	.6250-18	.766	.732	.940	.928	1.051

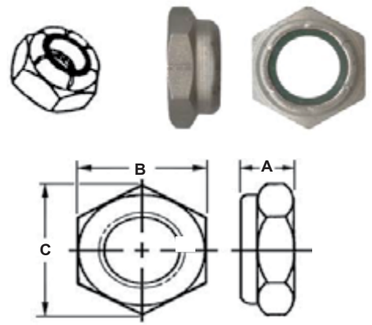


Thread Size	CARBON STEEL		CORROSION RESISTANT	ALUMINUM
	MS21044	MS20365	MS21044	MS21044
4-40	N04	440A	C04	D04
6-32	N06	632A	C06	D06
8-32	N08	832A	C08	D08
10-32	N3	1032A	C3	D3
1/4-28	N4	428A	C4	D4
5/16-24	N5	524A	C5	D5
3/8-24	N6	624A	C6	D6
7/16-20	N7	720A	C7	D7
1/2-20	N8	820A	C8	D8
9/16-18	N9	918A	---	---
5/8-18	N10	1018A	---	---

MS21083

Self Locking Nut, Low Height, Nylon Insert, 250°F

MS21083 NON-METALLIC INSERT			"T" THREAD MIL-S-8879	A		B		C
AL ALLOY	STEEL	CRES		MAX	MIN	MAX	MIN	MIN
D04	N04	C04	.1120-40	.125	.094	.251	.243	.268
D06	N06	C06	.1380-32	.141	.110	.313	.305	.339
D08	N08	C08	.1640-32	.188	.157	.345	.336	.374
D3	N3	C3	.1900-32	.188	.157	.376	.367	.410
D4	N4	C4	.2500-28	.219	.188	.439	.430	.482
D5	N5	C5	.3125-24	.266	.235	.502	.492	.552
D6	N6	C6	.3750-24	.282	.251	.564	.553	.622
D7	N7	C7	.4375-20	.328	.298	.690	.679	.766
D8	N8	C8	.5000-20	.328	.298	.752	.741	.837
D9	N9	C9	.5625-18	.375	.344	.877	.865	.978
D10	N10	C10	.6250-18	.407	.376	.940	.928	1.051



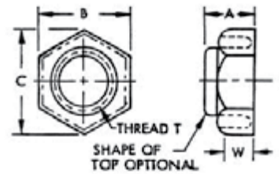
Thread Size	CARBON STEEL		CORROSION RESISTANT	ALUMINUM
	MS21083	MS20364	MS21083	MS21083
4-40	N04	440A	C04	D04
6-32	N06	632A	C06	D06
8-32	N08	832A	C08	D08
10-32	N3	1032A	C3	D3
1/4-28	N4	428A	C4	D4
5/16-24	N5	524A	C5	D5
3/8-24	N6	624A	C6	D6
7/16-20	N7	720A	C7	D7
1/2-20	N8	820A	C8	D8
9/16-18	N9	918A	---	---
5/8-18	N10	1018A	---	---

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS679

Self Locking Nut, Low Height
"A" After Base # Indicates All Metal
"W" Indicates Internal Wrenching Feature
"C" Indicates A286 CRES, Silver Plated for 800°F
"M" Indicates Dry Film Lubricant for 450°F Use





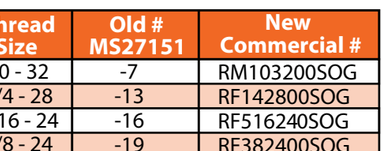
DASH NO.			(c) Thread T	(a) A MAX	B		C REF
450° F		800° F					
STEEL	CRES (d)	CRES (d)			MAX	MIN	
A04	C04M	C04	.1120-40	.125	.252	.240	.289
A06	C06M	C06	.1380-32	.141	.314	.302	.361
A08	C08M	C08	.1640-32	.188	.346	.334	.390
A3	C3M	C3	.1900-32	.188	.377	.365	.430
A4	C4M	C4	.2500-28	.219	.439	.430	.506
A5	C5M	C5	.3125-24	.266	.502	.492	.580
A6	C6M	C6	.3750-24	.282	.564	.553	.650
A7	C7M	C7	.4375-20	.328	.690	.679	.790

Thread Size	NAS679A
4-40	A04W
6-32	A06W
8-32	A08W
10-32	A3W
1/4-28	A4W
5/16-24	A5
3/8-24	A6
7/16-20	A7

NAS679C

Hexagon Nut
Self-Locking A286 CRES
"C#M" Indicates 450°Use, Dry Film Lube
"C" Indicates Silver Plated for 800°Use
"W" Indicates Internal Wrenching Feature

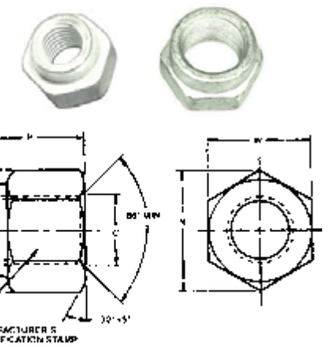
Thread Size	NAS679C
6-32	C06M
8-32	C08M C08MW
10-32	C3MW C3W
1/4-28	C4MW C4W
5/16-24	C5



MS20500

Self Locking Nut
Heat Resistant, Corrosion Resistant, 1200°F, Silver Plated

DASH #	THREAD MIL-S-8879	C .020	H		N	W	
			MAX	MIN	MIN	MAX	MIN
1032	10-32	.210	.250	.202	.413	.376	.367
428	1/4-28	.273	.328	.280	.488	.439	.430
524	5/16-24	.336	.360	.312	.557	.502	.492
624	3/8-24	.398	.469	.421	.628	.564	.553



Thread Size	MS20500
10-32	-1032
1/4-28	-428
5/16-24	-524
3/8-24	-624

EXHAUST MANIFOLD NUTS



Part#	Thread Size	Material	Engine
22022	5/16-24	BRASS	CONTINENTAL
STD1410	5/16-18	STEEL	LYCOMING
643967	1/4-28	REPLACED BY MS20500-428	
21247			

MISC. NUTS

Part#
AN3066-12
BACN10JC8
BACN10YD2
BACN10YD3
BACN10YD4
GYN145
H22-4

MS27151 (Old #) Pal Nut

(MS27151 for Ref. only)



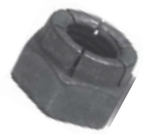
Thread Size	Old # MS27151	New Commercial #
10 - 32	-7	RM103200SOG
1/4 - 28	-13	RF142800SOG
5/16 - 24	-16	RF516240SOG
3/8 - 24	-19	RF382400SOG
7/16 - 20	-21	RL716200SOG

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21045 (AN363)

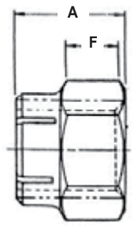
Self Locking Nut, Regular Height, All Metal, 450° F

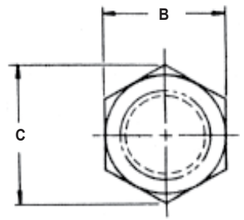
Dash Number Steel			Thread MIL-S-8879	A		B		C	F
Non-Dry Lubricant	Dry Lubricant	Corrosion Resistant		MAX	MIN	MAX	MIN	MIN	MIN
04	L04	C04	.1120-40	.167	.133	.243	.243	.268	.044
06	L06	C06	.1380-32	.188	.160	.305	.305	.339	.072
08	L08	C08	.1640-32	.250	.219	.336	.336	.374	.091
3	L3	C3	.1900-32	.250	.208	.367	.367	.410	.085
4	L4	C4	.2500-28	.328	.240	.430	.430	.482	.116
5	L5	C5	.3125-24	.360	.271	.492	.492	.552	.123
6	L6	C6	.3750-24	.469	.318	.553	.553	.622	.153
7	L7	C7	.4375-20	.469	.435	.679	.679	.766	.178
8	L8	C8	.5000-20	.610	.575	.741	.741	.837	.221
9	L9	C9	.5625-18	.705	.623	.865	.865	.978	.243
10	L10	C10	.6250-18	.766	.732	.928	.928	1.051	.274
AN363-720			.4375-20	.469	.453	.615	.615	.705	.178





Thread Size	Carbon Steel		Corrosion Resistant Dry Film Lube
	MS21045	AN363	MS21045
4-40	04	440	C04
6-32	06	632	C06
8-32	08	832	C08
10-32	3	1032	C3
1/4-28	4	428	C4
5/16-24	5	524	C5
3/8-24	6	624	C6
7/16-20	7	---	C7
7/16-20	---	AN363-720	---
1/2-20	8	820	C8
9/16-18	9	918	---
5/8-18	10	1018	---





MS21045L

All Metal, Dry Film Lube



Thread Size	MS21045
4-40	L04
6-32	L06
8-32	L08
10-32	L3
1/4-28	L4
5/16-24	L5
3/8-24	L6
7/16-20	L7
1/2-20	L8

MS21046C

All Metal 800° Full Height

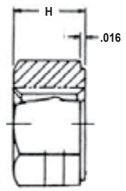


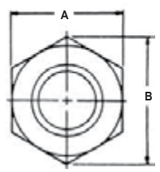
Thread Size	MS21046
4-40	C04
6-32	C06
8-32	C08
10-32	C3
1/4-28	C4
5/16-24	C5
3/8-24	C6
7/16-20	C7
1/2-20	C8

AN121501, AN121502, AN121503

Plain Nut, Steel AMS 6322
(Old AN360 Engine Nut)

Thread Size	A Min	A Max	B Min	H	PART #
.190-32	.367	.376	.419	.156	AN121501
.250-28	.430	.439	.491	.219	AN121502
.3125-24	.492	.502	.561	.266	AN121503



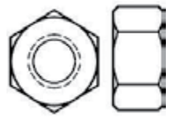




WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

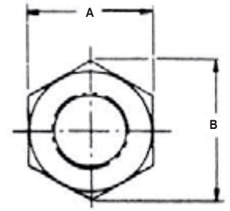
AN315

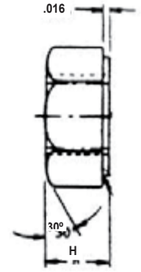
Hexagon Plain Nut





AN315	THREAD T	TENSILE STRENGTH STEEL	A +.002 -.010	B APPROX	H
AN315-3	10-32	2,210	.375	7/16	9/64
AN315-4	1/4-28	4,080	.438	1/2	3/16
AN315-5	5/16-24	6,500	.500	37/64	15/64
AN315-6	3/8-24	10,100	.563	21/32	9/32
AN315-7	7/16-20	13,600	.625	23/32	21/64
AN315-8	1/2-20	18,500	.750	7/8	3/8
AN315-9	9/16-18	23,600	.875	1-1/64	27/64
AN315-10	5/8-18	30,100	1.000	1-5/32	15/32





Thread Size	AN315	AN315	AN315
10-32	3R	3L	C3R
1/4-28	4R	4L	C4R
5/16-24	5R	5L	C5R
3/8-24	6R	6L	C6R
7/16-20	7R	7L	---
1/2-20	8R	8L	---
9/16-18	9R	9L	---
5/8-18	10R	10L	---

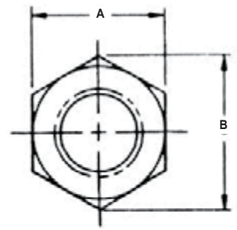
AN316

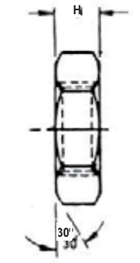
Hexagon Jam Nut





AN316	THREAD T	TENSILE STRENGTH	A +.002 -.010	B APPROX	H
AN316-4	1/4-28	2,040	.438	1/2	1/8
AN316-5	5/16-24	3,250	.500	37/64	5/32
AN316-6	3/8-24	5,050	.563	21/32	3/16
AN316-7	7/16-20	6,800	.625	23/32	7/32
AN316-8	1/2-20	9,250	.750	7/8	1/4
AN316-9	9/16-18	11,800	.875	1-1/64	9/32
AN316-10	5/8-18	15,050	1.00	1-5/32	5/16



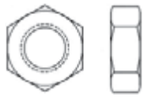


Thread Size	AN316	AN316
10-32	(Use AN315)	(Use AN315)
1/4-28	4R	4L
5/16-24	5R	5L
3/8-24	6R	6L
7/16-20	7R	7L
1/2-20	8R	8L
9/16-18	9R	9L
5/8-18	10R	10L

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

MS35649

Plain Hexagon Nut
Coarse Thread



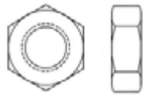


DASH NUMBER			THREAD SIZE	F WIDTH ACROSS CORNERS		G WIDTH ACROSS CORNERS		H THICKNESS	
CARBON STEEL CAD	CRES STEEL	BRASS		MAX	MIN	MAX	MIN	MAX	MIN
222	224	225	.0860-56	.187	.180	.217	.205	.066	.057
242	244	245	.1120-40	.250	.241	.289	.275	.098	.087
262	264	265	.1380-32	.312	.302	.361	.344	.114	.102
282	284	286	.1640-32	.344	.332	.397	.378	.130	.117
202	204	205	.1900-24	.375	.362	.433	.413	.130	.117
2252	2254	2255	.2500-20	.437	.423	.505	.482	.193	.178
2312	2314	2315	.3125-18	.562	.545	.650	.621	.225	.208

Thread Size	Steel	Corrosion Resistant	Brass, Black Oxide
	MS35649	MS35649	MS35649
2-56	222	224	225B
4-40	242	244	245B
6-32	262	264	265B
8-32	282	284	286B
10-24	202	204	205B
1/4-20	2252	2254	2255B
5/16-18	2312	2314	2315B

MS35650

Plain Hex Nut
Fine Thread





DASH NUMBER			THREAD SIZE	F WIDTH ACROSS CORNERS		G WIDTH ACROSS CORNERS		H THICKNESS	
CARBON STEEL CAD	CRES STEEL	BRASS		MAX	MIN	MAX	MIN	MAX	MIN
342	344	345	.1120-48	.250	.241	.289	.275	.098	.087
362	364	365	.1380-40	.312	.302	.361	.344	.114	.102
382	384	386	.1640-36	.344	.332	.397	.378	.130	.117
302	304	305	.1900-32	.375	.362	.433	.413	.130	.117
3252	3254	3255	.2500-28	.437	.423	.505	.482	.193	.178
3312	3314	3315	.3125-24	.562	.545	.650	.621	.225	.208
3382	3384	3385	.3750-24	.625	.607	.722	.692	.257	239

Thread Size	Steel	Corrosion Resistant	Brass, Black Oxide
	MS35650	MS35650	MS35650
4-48	342	344	345B
6-40	362	364	365B
8-36	382	384	386B
10-32	302	304	305B
1/4-28	3252	3254	3255B
5/16-24	3312	3314	3315B
3/8-24	3382	3384	3385B

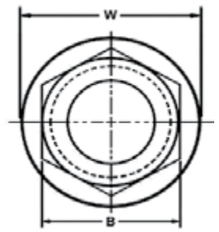
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1291

Self Locking Nut
Low Height, Lightweight

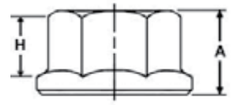
"M" indicates Dry Film Lube
"C" indicates Corrosion Resistant Steel





THREAD	DASH NUMBER 450°F STEEL	450°F A286 CRES	800°F A286 CRES	A	B	H	W
.1380-32	---	C06M	---	.141 .115	.190 .181	.055	.244
.1640-32	---	C08M	---	.188 .125	.221 .213	.060	.290
.1900-32	---	C3M	---	.188 .154	.252 .243	.065	.330
.2500-28	---	C4M	---	.219 .204	.316 .304	.090	.420
.3125-24	---	C5M	---	.266 .251	.378 .367	.120	.520
.3750-24	---	C6M	---	.282 .267	.440 .430	.125	.620
.4375-20	7	C7M	C7	.328 .313	.504 .494	.160	.708
.5000-20	8	C8M	C8	.410 .350	.566 .556	.225	.814
.5625-18	9	C9M	C9	.490 .420	.692 .680	.320	.912
.6250-18	10	C10M	C10	.550 .490	.755 .743	.365	1.014

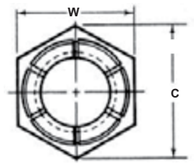
Thread Size	Corrosion Resistant 450°F	Steel	Corrosion Resistant 800°F
	NAS1291	NAS1291	NAS1291
8-32	C08M	-	-
10-32	C3M	-	-
1/4-28	C4M	-	-
5/16-24	C5M	-	-
3/8-24	C6M	-	-
7/16-20	C7M	7	C7
1/2-20	C8M	8	C8
5/8-18	C10M	10	C10

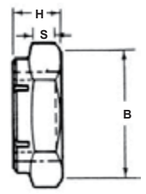


27 FT

Self Locking Hexagon Nut, Thin, Carbon Steel 450°F







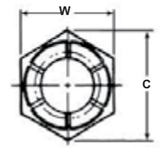
DASH NO.	THREAD SIZE	B MIN DIA	C MIN	H MAX	S MIN	W MAX	W MIN
632	.138-32	.305	.347	.141	.036	.313	.305
832	.164-32	.336	.383	.188	.070	.345	.336
1032	.190-32	.367	.419	.188	.065	.376	.367
428	.250-28	.430	.481	.219	.075	.439	.430
524	.312-24	.492	.561	.266	.097	.502	.492
624	.375-24	.553	.631	.282	.108	.564	.553

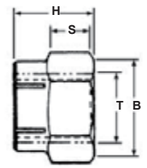
SPS PART #	FOR REF ONLY MS20364
27FT632	632C
27FT832	832C
27FT1032	1032C
27FT428	428C
27FT524	524C
27FT624	624C

22 FH

Self Locking Flexloc Nut, Hexagon
Regular Height, Carbon Steel 450° F







DASH NO.	T THREAD SIZE	B MIN DIA	C MIN	H MAX	S MIN	W MAX	W MIN
524	.312-24	.492	.561	.353	.150	.502	.492
624	.375-24	.553	.631	.482	.210	.564	.553

SPS PART #
22FH524
22FH624

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

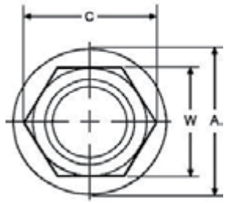
MS21042

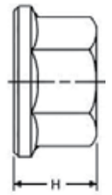
Self Locking Nut, Reduced Hexagon, Reduced Height
Non-Corrosion Resistant Steel 450°

SIZE DASH NO.	THREAD	A MAX DIA	C MIN	H		W ACROSS FLATS	
				MAX	MIN	MAX	MIN
-02	.0860-56	.167	.138	.100	.080	.127	.122
-04	.1120-40	.206	.171	.125	.103	.158	.150
-06	.1380-32	.244	.207	.141	.115	.190	.181
-08	.1640-32	.290	.244	.188	.125	.221	.213
-3	.1900-32	.330	.277	.188	.154	.252	.243
-4	.2500-28	.420	.347	.219	.204	.316	.304
-5	.3125-24	.520	.419	.266	.251	.378	.367
-6	.3750-24	.620	.491	.282	.267	.440	.430

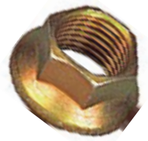
With Dry Film Lube







Without Dry Film Lube



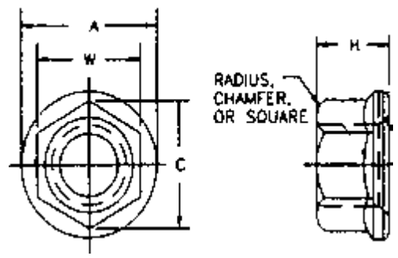
Thread Size	with Dry Film Lube	without Dry Film Lube
	MS21042	MS21042
2-56	L02	-02
4-40	L04	-04
6-32	L06	-06
8-32	L08	-08
10-32	L3	-3
1/4-28	L4	-4
5/16-24	L5	-5
3/8-24	L6	-6

MS21043

Self Locking Nut
Heat Resistant, Reduced Hexagon, Reduced Height
Corrosion Resistant, 800°F, Silver Plated

DASH NO.	THREAD	A MAX DIA	C MIN	H		W	
				MAX	MIN	MAX	MIN
-04	4-40	.206	.171	.125	.103	.158	.150
-06	6-32	.244	.207	.141	.115	.190	.181
-08	8-32	.290	.244	.188	.125	.221	.213
-3	10-32	.330	.277	.188	.154	.252	.243
-4	1/4-28	.420	.347	.219	.204	.316	.304
-5	5/16-24	.520	.419	.266	.251	.378	.367
-6	3/8-24	.620	.491	.282	.267	.440	.430





Thread Size	MS21043
4-40	04
6-32	06
8-32	08
10-32	3
1/4-28	4
5/16-24	5
3/8-24	6

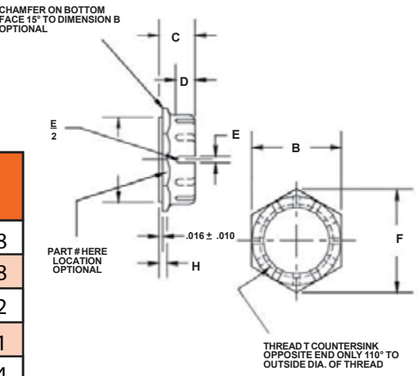
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21025

Castellated Hexagon Nut
Alloy Steel 450°







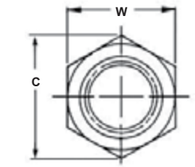
MS21025	Thread		B	C	D	E	F
	Size	Pitch					
15	.9375-16	.8969	1.250	.531	.219	.156	1.448
16	1.000-16	.9594	1.250	.500	.250	.156	1.448
20	1.250-16	.1.2094	1.500	.562	.250	.156	1.732
24	1.500-16	1.4594	1.750	.562	.312	.156	2.021
28	1.750-16	1.7094	2.125	.562	.312	.172	2.454
32	2.000-16	1.9594	2.250	.656	.312	.172	2.596

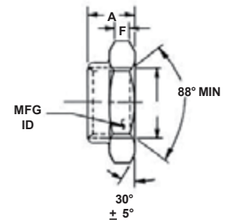
MS21245

Self Locking Nut
Hexagon, Thin
450°, 80 KSI



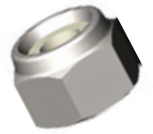
Thread Size	NON-DRY LUBE MS21245	DRY LUBE MS21245	A	C	D		F	W	
					MIN	MAX		MIN	MAX
.4375-20	7	L7	.328	.765	.448	.478	.458	.679	.690
.5000-20	8	L8	.328	.836	.521	.551	.531	.741	.752
.5625-18	9	L9	.375	.978	.584	.614	.594	.865	.877
.6250-18	10	L10	.407	1.050	.646	.676	.656	.928	.940
.7500-16	11	L12	.422	1.192	.777	.807	.787	1.052	1.064
.8750-14	12	L14	.485	1.405	.903	.933	.913	1.239	1.252



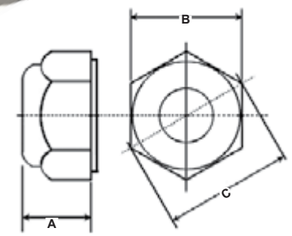


NAS1022

Self Locking Nut
Hexagon Low Height
Low Strength Steel 450°



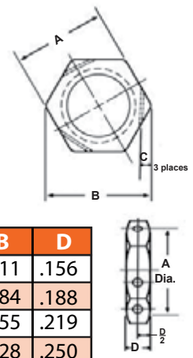
Thread Size	NAS1022	A	B		C	D
			MIN	MAX		
.4375-20	A7	.328	.679	.690	.790	.458
.5000-20	A8	.328	.741	.752	.870	.531
.5625-18	A9	.375	.865	.877	1.010	.594
.6250-18	A10	.407	.928	.940	1.080	.656
.7500-16	A12	.422	1.052	1.064	1.230	.787
.8750-14	A14	.485	1.239	1.252	1.440	.913
1.000-12	A16	.578	1.427	1.440	1.660	1.039



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS509
Drilled Jam Nut
"C" Indicates A286 CRES
"L" Indicates Left Hand Thread

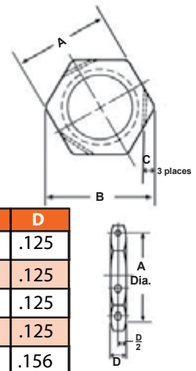




NAS509	T Thread	A	C	B	D
3	.1900-32	.375	.053	.411	.156
4	.2500-28	.438	.056	.484	.188
5	.3125-24	.500	.058	.555	.219
6	.3750-24	.563	.060	.628	.250
7	.4375-20	.625	.063	.700	.281
8	.5000-20	.750	.093	.844	.313

NAS1423
Drilled Jam Nut
"LH" Indicates
Left Hand Thread

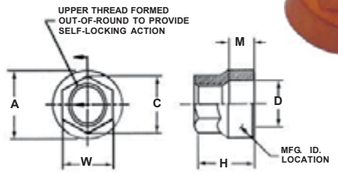




NAS1423	Thread	A	B	C	D
3 3LH	.1900-32	.375	.411	.053	.125
4 4LH	.2500-28	.438	.484	.056	.125
5 5LH	.3125-24	.500	.555	.058	.125
6 6LH	.3750-24	.563	.628	.060	.125
8	.5000-20	.750	.844	.093	.156
10	.6250-18	1.000	1.128	.093	.203
12	.7500-16	1.125	1.271	.125	.250

KFN587
K-Fast Nut, 6 Point, Self-Locking
7075 Aluminum Alloy {QQ-A-225/9}

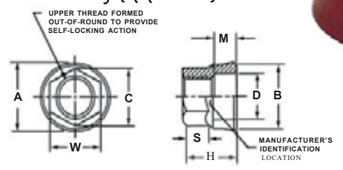




KFN587	T Thread	A	C	D	H	M	W	Tensile Strength
08	.1640-32	.290	.242	.171	.230	.087	.216	1,400
3	.1900-32	.304	.277	.198	.240	.087	.247	1,600
4	.2500-28	.410	.348	.259	.280	.092	.309	3,000
5	.3125-24	.515	.419	.322	.325	.097	.371	5,000

KFN600
K-Fast Nut, 6 Point, Shear Pin
7075 Aluminum Alloy {QQ-A-225/9} or
7175 Aluminum Alloy {QQ-A-430}





KFN600	T Thread	A	B	C	D	H	M	S	W	Tensile Strength
08	.1640-32	.290	.273	.242	.200	.270	.107	.060	.216	1,400
3	.1900-32	.320	.295	.277	.226	.280	.107	.070	.247	1,600
4	.2500-28	.420	.398	.348	.286	.340	.112	.090	.309	3,000
5	.3125-24	.535	.497	.419	.348	.430	.122	.160	.371	5,000

F22NKM, F22NKTM
Hex Nut with Nylon Cap
Cadmium II plated



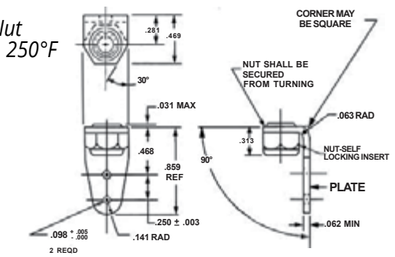
NKM



NKTM

Part Number	Thread Size	Approx. Height
F22NKM-62	6-32	.297
F22NKM-82	8-32	.353
F22NKM-02	10-32	.363
F22NKTM-62	6-32	.249
F22NKTM-82	8-32	.308
F22NKTM-02	10-32	.308

AN256
Right Angle Nut
Self-Locking, 250°F

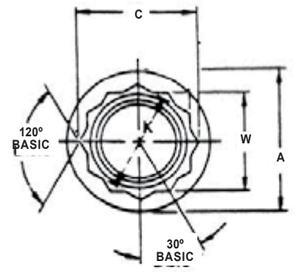


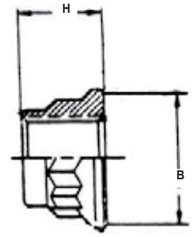
Thread Size	Part Number	
	Aluminum	Steel
6-32	AN256-6	AN256F6
8-32	AN256-8	AN256F8
10-32	AN256-10	AN256F10

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NAS1804
Self-Locking Nut
Extended Washer
Double Hexagon
Alloy Steel - 180 KSI, 450°F



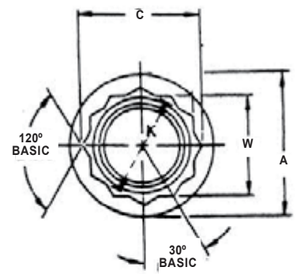


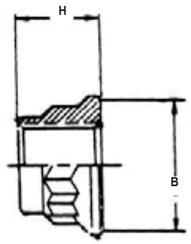


DASH NO.	THREAD NOTE 1	A DIA	B DIA MIN	C MIN	H MAX	W MAX	W MIN
3	.1900-32	.339	.299	.277	.190	.251	.243
4	.2500-28	.434	.394	.347	.250	.313	.305
5	.3125-24	.532	.492	.418	.312	.376	.367
6	.3750-24	.631	.591	.490	.375	.439	.430
6N	.3750-24	.631	.591	.490	.375	.439	.430
7	.4375-20	.729	.689	.631	.438	.564	.553
8	.5000-20	.828	.788	.703	.500	.627	.616

NAS1805
Self-Locking Nut
Extended Washer
Double Hexagon
A286 CRES, 180 KSI, 450°F and 800°F
No Letter Indicates Unplated, Passivated
"L" Indicates Dry Film Lubricant, Cadmium Plated
"P" Indicates Silver Plated, No Lubricant







DASH NO.	THREAD NOTE 1	A DIA	B DIA MIN	C	H MAX	W MAX	W MIN
3	.1900-32	.339	.299	.277	.190	.251	.243
4	.2500-28	.434	.394	.347	.250	.313	.305
4L	.2500-28	.434	.394	.347	.250	.313	.305
4P	.2500-28	.434	.394	.347	.250	.313	.305
5	.3125-24	.532	.492	.418	.312	.376	.367
5L	.3125-24	.532	.492	.418	.312	.376	.367
5P	.3125-24	.532	.492	.418	.312	.376	.367
6	.3750-24	.631	.591	.490	.375	.439	.430
6L	.3750-24	.631	.591	.490	.375	.439	.430
6P	.3750-24	.631	.591	.490	.375	.439	.430
7	.4375-20	.729	.689	.631	.438	.564	.553
7L	.4375-20	.729	.689	.631	.438	.564	.553
8	.5000-20	.828	.788	.703	.500	.627	.616

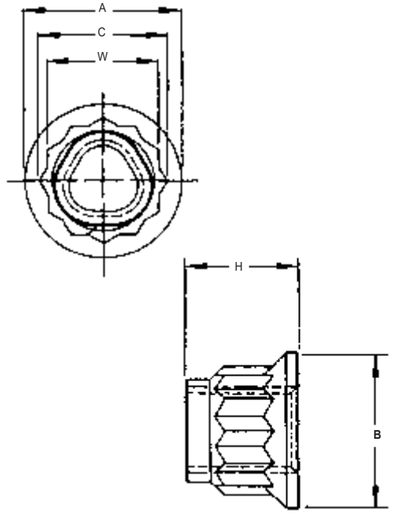
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

42FLW (CAD I PLATED)
47FLW (CAD II PLATED)

Double Hexagon, Flexloc
Self-Locking Alloy Steel
Flanged, 180 KSI Lightweight 450°



DASH NO.	THREAD SIZE	A MAX	B MIN	C MIN	H MAX	W MAX	W MIN	AXIAL STRENGTH LBS. MIN.
428	.250-28	.444	.414	.419	.290	.376	.367	7,270
524	.312-24	.547	.517	.491	.363	.439	.430	11,500
624	.375-24	.654	.624	.561	.438	.502	.492	17,100
720	.437-20	.753	.713	.631	.506	.564	.553	23,200
820	.500-20	.863	.823	.703	.549	.627	.616	30,900
918	.562-18	.938	.898	.775	.600	.690	.676	39,100
1018	.625-18	1.050	1.000	.881	.650	.783	.772	49,100



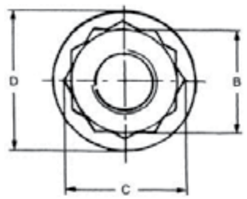
Part #	Thread Size
42FLW428	1/4-28
42FLW524	5/16-24
42FLW624	3/8-24
47FLW524	5/16-24
47FLW624	3/8-24
47FLW720	7/16-20
47FLW820	1/2-20

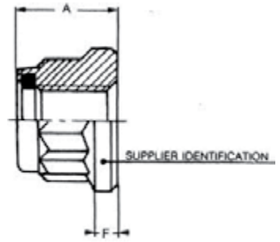
EB - DOUBLE HEX NUT

High Tensile 180,000 PSI (250° F)
This Table is For Reference Only.
We May Quote SPS, Bristol,
or Other Equivalent



ESNA PART NO.	BRISTOL PART NO.	THREAD SIZE	A MAX	B MIN	C REF	D +.000 -.010	F REF	ULTIMATE TENSILE STRENGTH LB. MIN
EB-048	DHN35-4	.2500-28	.334	.376 - .367	.420	.531	.090	6,980
EB-054	DHN35-5	.3125-24	.396	.439 - .430	.491	.593	.090	11,100
EB-064	DHN35-6	.3750-24	.453	.502 - .492	.562	.687	.099	17,100
EB-070	DHN35-7	.4375-20	.516	.564 - .553	.633	.781	.107	23,200
EB-080	DHN35-8	.5000-20	.563	.627 - .616	.704	.875	.118	30,900
EB-098	DHN35-9	.5625-18	.625	.690 - .679	.774	.968	.127	39,200

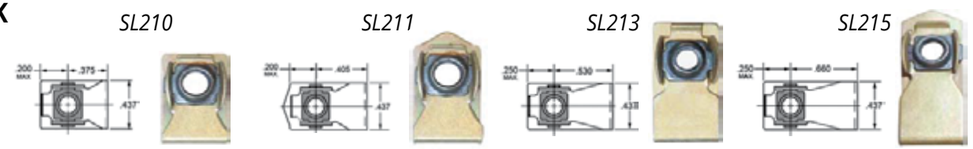




ESNA PART NO.	BRISTOL PART NO.	Thread Size
EB-048	DHN35-4	1/4-28
EB-054	DHN35-5	5/16-24
EB-064	DHN35-6	3/8-24
EB-070	DHN35-7	7/16-20
EB-080	DHN35-8	1/2-20
EB-098	DHN35-9	9/16-18

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

SHUR-LOK CLIP NUT

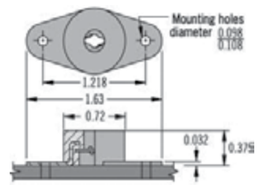


Shur-Lok Part #	Thread Size	Max. Edge Distance	Installation Hole Size	Panel Thickness	Shur-Lok Part #	Thread Size	Max. Edge Distance	Installation Hole Size	Panel Thickness
SL210-06-1	6-32	.250	.190 - .229	.020 - .060	SL211-06-1	6-32	.375	.190 - .229	.020 - .125
SL210-06-2	6-32	.250	.190 - .229	.060 - .125	SL211-08-1	8-32	.375	.190 - .229	.020 - .125
SL210-08-2	8-32	.250	.190 - .229	.060 - .125	SL211-3-1	10-32	.375	.218 - .261	.020 - .125
SL210-3-1	10-32	.250	.218 - .261	.020 - .060	SL213-08-1	8-32	.500	.190 - .229	.020 - .160
SL210-3-2	10-32	.250	.218 - .261	.060 - .125	SL215-3-1	10-32	.620	.218 - .261	.020 - .160
SL210-3-3	10-32	.250	.218 - .261	.125 - .187					

SOUTHCO

Cowling Mount
82-35-306-10





LORD COWLING MOUNTS

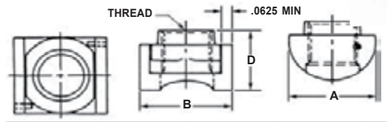
Part #
J7444-14
J7444-24
J7444-36



NAS577B

Floating Barrel Nut
Self Locking,
180 KSI

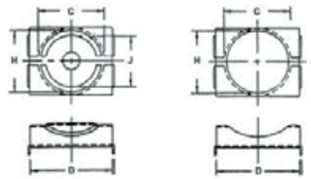




NAS577B	Thread	A	Hole Min / Max	B	D
4A	.2500-28	.513	.531 - .535	.625	.406
5A	.3125-24	.575	.594 - .599	.688	.468
6A	.3750-24	.669	.688 - .693	.750	.531
7A	.4375-20	.763	.781 - .788	.875	.625
8A	.5000-20	.857	.875 - .882	1.000	.703

NAS578

Floating Barrel
Nut Retainer



NAS578	D	J	H	C	H
4A	.625	.275	.406	.453	.406
5A	.688	.335	.469	.500	.469
6A	.750	.400	.531	.594	.531
7A	.875	.464	.594	.672	.594
8A	1.000	.527	.656	.750	.656

MS21063

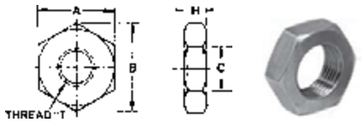
Gang Channel
Self Locking Nuts, Floating
Low Height, Steel, 125KSI, 250° F,
.190-32 Thread, 6 Ft. Length

Part Number MS21063L	Nut Element Spacing	Max # of Nut Element
3-6	.750	96
3-7	.875	82
3-8	1.000	72
3-9	1.125	64
3-10	1.250	57
3-11	1.375	52
3-12	1.500	48
3-16	2.000	36



MS25082

Hexagon Nut
Thin Electrical

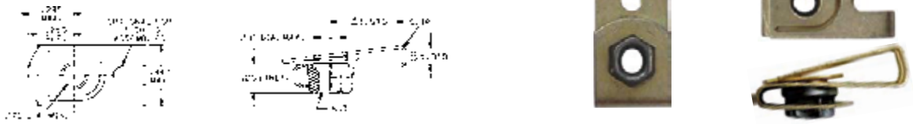


MS25082	Thread Size	A	B	C	H
2	.1640-32	.338	.388	.194	.078
3	.1900-32	.369	.423	.220	.078
12		.246	.282	.220	.078
4	.2500-28	.433	.495	.280	.089
13		.307	.352	.280	.078

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

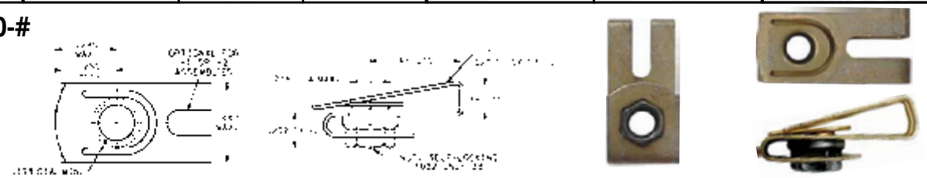
MONADNOCK CLIP NUTS

13080000-#



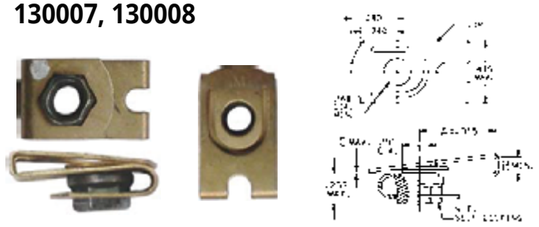
PART #	Thread Size	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13080000-3	8-32	.395	.163	.375	.020-.120	.192-.202
13080000-4	8-32	.520	.190	.500	.020-.120	.192-.202
13080000-5	8-32	.665	.190	.625	.020-.120	.192-.202

13100000-#



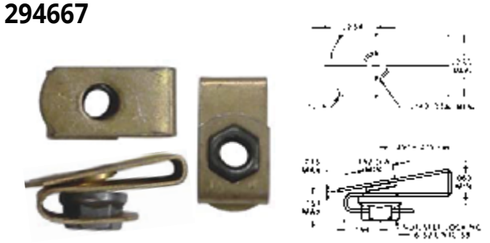
PART #	Thread Size	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13100000-2	10-32	.300	.130	.281	.020-.120	.220-.230
13100000-3	10-32	.395	.163	.375	.020-.090	.220-.230
13100000-4	10-32	.520	.190	.500	.020-.120	.220-.230
13100000-5	10-32	.665	.190	.625	.020-.120	.220-.230
13100000-6	10-32	.749	.280	.705	.140-.250	.220-.230

130007, 130008



PART #	Thread Size	A	B	C	Sheet Thickness	Nom. Edge Margin
130007	8-32	.520	.095	.015	.020-.090	.310-.500
130008	8-32	.395	.075	.015	.020-.070	.250-.380

294667



PART #	Thread Size	Sheet Thickness	Nom. Edge Margin
294667	6-32	.030-.062	. 280-.310

130061, 130062, 130068



PART #	Thread Size	A±.015	B Min.	C Max.	C Min.	K Max.	L Max.	Sheet Thickness	Nominal Edge Margin
130061	10-32	.515	.095	.015	.000	.338	.281	.020-.090	.350-.500
130062	10-32	.665	.095	.015	.000	.338	.281	.020-.090	.510-.650
130068	10-32	.740	.235	.120	.010	.338	.281	.140-.230	.600-.710

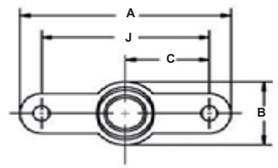
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21047 - TWO LUG, LOW HEIGHT NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21047
6-32	.948	.265	.344	.688	.171	L06
6-32	.948	.265	.344	.688	.250	L06K
8-32	.948	.297	.344	.688	.250	L08
8-32	.948	.297	.344	.688	.250	L08K
10-32	.948	.328	.344	.688	.250	L3
10-32	.948	.328	.344	.688	.250	L3K
1/4-28	1.260	.414	.500	1.00	.281	L4
5/16-24	1.292	.505	.500	1.00	.328	L5





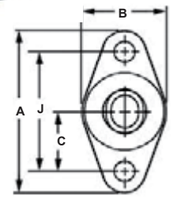
MS21047 *is available without Dry Film Lube*
MS21048 *-Two Lug Nutplate Corrosion Resistant*

MS21049 - TWO LUG, LOW HEIGHT 100° COUNTERSUNK

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21049
8-32	.948	.422	.344	.688	.272	L08
8-32	.948	.422	.344	.688	.272	L08K
10-32	.948	.453	.344	.688	.281	L3
10-32	.948	.453	.344	.688	.281	L3K
1/4-28	1.260	.619	.500	1.00	.340	L4





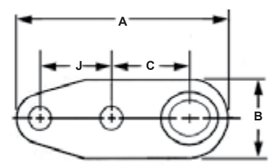
MS21049 *is available without Dry Film Lube*
MS21050 *- Two Lug, Low Height Nutplate Corrosion Resistant*

MS21051 - ONE LUG NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21051
6-32	.935	.297	.344	.312	.171	L06
6-32	.935	.297	.344	.312	.171	L06K
8-32	.935	.297	.344	.312	.250	L08
8-32	.935	.297	.344	312	.250	L08K
10-32	.950	.328	.344	.312	.250	L3
10-32	.950	.328	.344	.312	.250	L3K
1/4-28	.993	.414	.344	.312	.281	L4





MS21051 *is available without Dry Film Lube*
MS21052 *- One Lug Nutplate Corrosion Resistant*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21055 - CORNER NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	C Max	J Max	Height Max	with Dry Film Lube MS21055
6-32	.637	.344	.486	.171	L06
8-32	.637	.344	.486	.250	L08
8-32	.637	.344	.486	.250	L08K
10-32	.653	.344	.486	.250	L3
10-32	.653	.344	.486	.250	L3K
1/4-28	.852	.500	.707	.281	L4



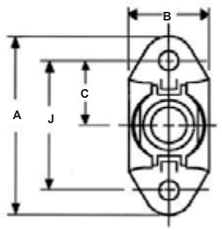
MS21055 *is available without Dry Film Lube*
MS21056 *- Corner Nutplate Corrosion Resistant*

MS21059 - TWO LUG, LOW HEIGHT, FLOATING NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21059
4-40	.948	.416	.344	.688	.175	L04
6-32	.948	.416	.344	.688	.203	L06
6-32	.948	.416	.344	.688	.203	L06K
8-32	.948	.416	.344	.688	.250	L08
8-32	.948	.416	.344	.688	.250	L08K
10-32	.948	.416	.344	.688	.250	L3
10-32	.948	.416	.344	.688	.250	L3K
1/4-28	1.292	.516	.500	1.00	.281	L4
1/4-28	1.292	.516	.500	1.00	.281	L4K
5/16-24	1.292	.609	.500	1.00	.328	L5
3/8-24	1.292	.680	.500	1.00	.344	L6





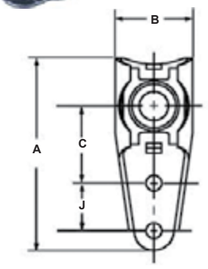
MS21059 *is available without Dry Film Lube*
MS21060 *- Two Lug, Low Height, Floating C orrosion R esistant*

MS21061 - ONE LUG, FLOATING NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

Thread Size	A Max	B Max	C Max	Height Max	with Dry Film Lube MS21061
6-32	1.051	.422	.344	.203	L06
6-32	1.051	.422	.344	.203	L06K
8-32	1.051	.422	.344	.250	L08
8-32	1.051	.422	.344	.250	L08K
10-32	1.051	.422	.344	.250	L3
10-32	1.051	.422	.344	.250	L3K
1/4-28	1.306	.531	.500	.281	L4





MS21061 *is available without Dry Film Lube*
MS21062 *- One Lug, Floating Nutplate Corrosion Resistant*

MS21069 - TWO LUG, LOW HEIGHT MINIATURE NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

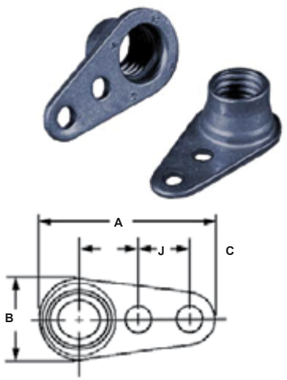
Thread Size	A Max	B Max	J Max	Height Max	with Dry Film Lube MS21069
4-40	.630	.260	.406	.143	L04
6-32	.661	.265	.437	.171	L06
6-32	.661	.265	.437	.171	L06K
8-32	.692	.297	.468	.250	L08
8-32	.692	.297	.468	.250	L08K
10-32	.724	.328	.500	.250	L3
10-32	.724	.328	.500	.250	L3K
1/4-28	.786	.414	.562	.281	L4
5/16-24	1.006	.505	.718	.328	L5



MS21069 *is available without Dry Film Lube*
MS21070 *- Two Lug, Low Height Miniature Corrosion Resistant*

MS21071 - ONE LUG, LOW HEIGHT MINIATURE NUTPLATE

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21071
4-40	.667	.260	.203	.219	.143	L04
6-32	.684	.265	.218	.219	.171	L06
6-32	.684	.265	.218	.219	.171	L06K
8-32	.716	.297	.234	.219	.250	L08
8-32	.716	.297	.234	.219	.250	L08K
10-32	.745	.328	.250	.219	.250	L3
10-32	.745	.328	.250	.219	.250	L3K
1/4-28	.822	.414	.281	.219	.281	L4



MS21071 *is available without Dry Film Lube*
MS21072 *- One Lug, Low Height Miniature Corrosion Resistant*

MS21073 - CORNER, LOW HEIGHT MINIATURE NUTPLATE

Thread Size	A Max	C Max	J Max	Height Max	with Dry Film Lube MS21073
4-40	.448	.203	.287	.143	L04
6-32	.463	.218	.308	.171	L06
8-32	.497	.234	.331	.250	L08
10-32	.526	.250	.354	.250	L3
10-32	.526	.250	.354	.250	L3K
1/4-28	.603	.281	.398	.281	L4
5/16-24	.757	.359	.508	.328	L5



MS21074 *Corner, Low Height Miniature Corrosion Resistant*
(NAS698C) *Reference MS21073 for Sizes*

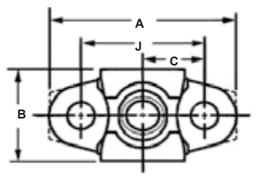
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21075 - TWO LUG, LOW HEIGHT MINIATURE FLOATING NUTPLATE

Thread Size	A Max	B Max	C Max	J Max	Height Max	with Dry Film Lube MS21075
4-40	.651	.315	.203	.406	.153	L04N
6-32	.682	.357	.218	.437	.171	L06N
8-32	.707	.367	.234	.468	.250	L08N
10-32	.739	.416	.250	.500	.250	L3N
1/4-28	.801	.500	.281	.562	.281	L4N
5/16-24	1.010	.581	.359	.718	.328	L5N



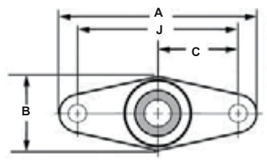


MS21075 *is Available Without Dry Film Lube*
MS21076 *- Two Lug, Low Height Miniature Corrosion Resistant*

MS21078 - TWO LUG NUTPLATE WITH NYLON INSERT

Thread Size	A Max	B Max	C Max	J Max	Height Max	MS21078
6-32	.984	.406	.344	.688	.234	-06
8-32	.984	.406	.344	.688	.297	-08
10-32	.984	.406	.344	.688	.312	-3

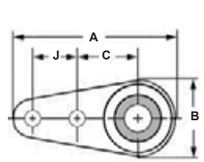




MS21080 - ONE LUG NUTPLATE WITH NYLON INSERT

Thread Size	A Max	B Max	C Max	J Max	Height Max	MS21080
8-32	1.031	.406	.344	.312	.297	-08
10-32	1.031	.406	.344	.312	.312	-3
1/4-28	1.062	.516	.344	.312	.375	-4

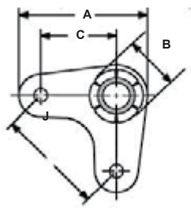




MS21081 - CORNER NUTPLATE WITH NYLON INSERT

Thread Size	A Max	B Max	C Max	J Max	Height Max	MS21081
6-32	.703	.406	.344	.486	.234	-06
8-32	.703	.406	.344	.486	.297	-08
10-32	.703	.406	.344	.486	.312	-3
1/4-28	.906	.514	.500	.707	.375	-4

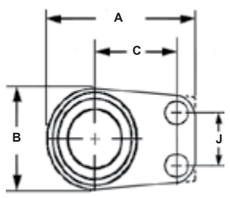




MS21086 - SIDE BY SIDE REDUCED RIVET SPACING NUT PLATE

Thread Size	A Max	B Max	C Max	J Max	Height Max	MS21086
8-32	.486	.297	.234	.219	.250	L08
10-32	.521	.328	.250	.219	.250	L3
1/4-28	.591	.414	.281	.219	.281	L4



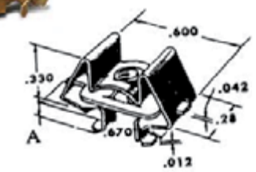


⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS33737-# INSTRUMENT MOUNTING NUT

Panel Range	A Max	MS33737	For Ref. Only NAS487
.062	.438	9C	13
.093	.469	10C	14
.125	.500	11C	15
.187	.562	12C	16
.250	.625	13C	17
.312	.688	14C	18
.375	.750	15C	20
.375+	.750	16C	21

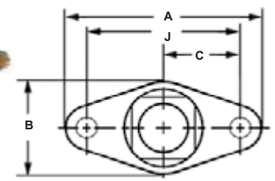




NAS1473 - TWO LUG, FLOATING, CAPPED NUTPLATE

Thread Size	A Max	B Max	C Max	J Max	Height Max	NAS1473	NAS1473
8-32	.989	.568	.344	.688	.640	A08	C08
10-32	.989	.568	.344	.688	.640	A3	C3
1/4-28	1.296	.668	.500	1.000	.755	A4	C4
5/16-24	1.296	.762	.500	1.000	.823	A5	C5

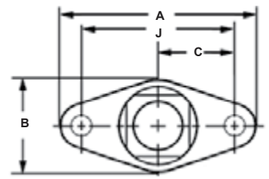




NAS1474 - TWO LUG, FLOATING, CAPPED NUTPLATE, WITH REDUCED RIVET SPACING

Thread Size	A Max	B Max	C Max	J Max	Height Max	NAS1474	NAS1474
6-32	.840	.443	.295	.590	.405	A06	–
8-32	.840	.443	.295	.590	.405	A08	C08
10-32	.840	.443	.295	.590	.405	A3	C3
1/4-28	1.000	.635	.376	.752	.560	A4	C4

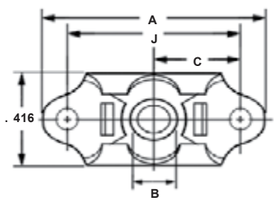




NAS1870 - TWO LUG FLOATING, DEEP COUNTERBORE

Thread Size	A Max	B Max	C Max	J Max	Height Max	NAS1870
10-32	.948	.250	.344	.688	.312	-3-2
10-32	.948	.250	.344	.688	.375	-3-3
10-32	.948	.250	.344	.688	.438	-3-4



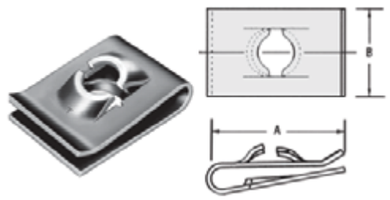


⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

TINNERMAN NUT

"U" Type (Pre-packaged bags quantity of 50)

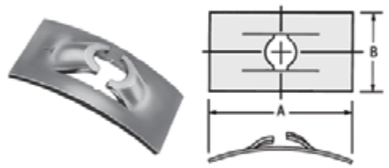
Tinnerman Part #	Screw Size	For Your Reference Only	A Length	B Width
A1784-6Z1D	#6	NAS395-6	.610	.440
A1785-6Z1D	#6	NAS395-7	.840	.440
A1786-8Z1D	#8	NAS395-12	.530	.500
D1274-8-1	#8	NAS395-14	.500	.500
A1789-8Z1D	#8	NAS395-16	.610	.440
A1348-8Z1D	#8	NAS395-17	.730	.500
A1787-8Z1D	#8	NAS395-18	.840	.440
A1788-8Z1D	#8	---	.840	.440
A1758-10Z1D	#10	NAS395-24	.620	.440
A1787-10Z1D	#10	---	.840	.440
A1932-8Z1D	#8	---	.580	.500



TINNERMAN NUT

"Flat" Type (Pre-packaged bags quantity of 50)

Tinnerman Part #	Screw Size	For Your Reference Only	A Length	B Width
A1776-4Z1D	#4	NAS446-1	.500	.312
A1777-6Z1D	#6	--	.630	.437
A1778-8Z1D	#8	NAS446-4	.625	.437
A1779-10Z1D	#10	NAS446-5	.875	.500



TINNERMAN NUTPLATE

50 pcs. min.



Tinnerman Part #	Screw Size
A6195-6Z1D	#6
A6195-8Z1D	#8

PIPER CLIPNUT

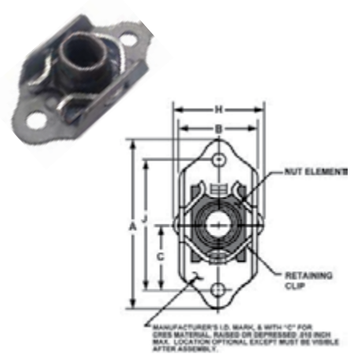


Part #	Piper Part #	Diameter
11204 New Rev	477-640	8-32
11202 Old Rev		

NAS1791 - TWO LUG, SELF-LOCKING, FLOATING, VARIABLE COUNTERBORE NUTPLATE

Replaceable Nut Element,
125 KSI, 450°F & 800°F

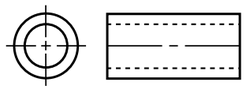
Thread Size	A Max	B Max	C ±.005	H Max	J ±.002	Height Max	NAS1791	NAS1791
10-32	.948	.445	.344	.484	.688	.640	A3-1	C3-1
						.640	A3-2	C3-2
						.755	A3-3	C3-3
						.823	A3-4	C4-4
1/4-28	1.292	.547	.500	.584	1.00	.640	A4-1	C4-1
						.640	A4-2	C4-2
						.755	A4-3	C4-3
						.823	A4-4	C4-4



NAS43DD

Spacers
"FC" Indicates Chemical Film Finish
"N" Indicates Gray Anodized Finish



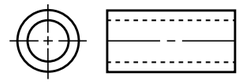


Use For #8 & #10 - 3 (Dia. .164 & .190) and 4 (Dia. .250)							
Length	NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD4-
1/16	4FC	11/32	22FC	21/32	42FC	1/8	8FC
5/64	5FC	23/64	23FC	11/16	44FC	5/32	10FC
3/32	6FC	3/8	24FC	3/4	48FC	3/16	12FC
7/16	7FC	3/8	24N	3/4	48N	1/4	16FC
1/8	8FC	13/32	26FC	13/16	52N	5/16	20FC
1/8	8N	7/16	28FC	27/32	54FC	3/8	24FC
5/32	10FC	15/32	30FC	7/8	56FC	13/32	26FC
3/16	12FC	1/2	32FC	29/32	58FC	7/16	28FC
3/16	12N	1/2	32N	1	64FC	15/32	30FC
7/32	14FC	17/36	34FC	1	64N	1/2	32FC
15/64	15FC	35/64	35FC	1-1/4	80N	9/16	36FC
1/4	16FC	9/16	36FC	1-1/2	96FC	5/8	40FC
1/4	16N	19/32	38FC	1-3/4	112FC	21/32	42FC
9/32	18FC	5/8	40FC	2	128FC	3/4	48FC
5/16	20FC	5/8	40N			1	64FC

NAS43HT

Spacers
"HT" Indicates Heat Treated
Alloy Steel



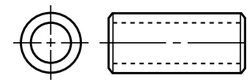


Length	NAS43HT	Length	NAS43HT
1/8	0-8	3/8	3-24
1/8	3-8	3-3/8	3-216
10/64	3-10	1/2	3-32
3/16	3-12	3/4	3-48
7/32	3-14	3/32	4-6
1/4	3-16	1/8	4-8
9/32	3-18	10/64	4-10
5/16	3-20	3/16	4-12
11/32	3-22	1/4	4-16

NAS75

Bushings





Length	.190 Dia. NAS75-3	Length	.250 Dia. NAS75-4	Length	.3125 Dia. NAS75-5
3/32	-003	3/32	-003	3/32	---
1/8	-004	1/8	-004	1/8	-004
5/32	-005	5/32	-005	5/32	---
3/16	-006	3/16	-006	3/16	-006
7/32	-007	7/32	-007	7/32	-007
1/4	-008	1/4	-008	1/4	-008
9/32	-009	9/32	-009	9/32	-009
5/16	-010	5/16	-010	5/16	-010
11/32	---	11/32	-011	11/32	-011
3/8	-012	3/8	-012	3/8	-012
13/32	-013	13/32	-013	13/32	-013
7/16	-014	7/16	---	7/16	-014
15/32	---	15/32	---	15/32	-015
1/2	-016	1/2	-016	1/2	---

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

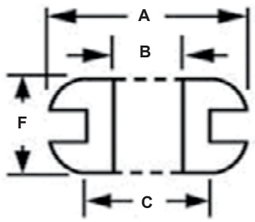
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

GROMMETS MS35489

AN931 - Alternate #
No Code (after dash #) - Synthetic Rubber
X (after dash #) - Silicone Rubber

MS35489	AN931	B Hole	C Groove	A Outside	F Dimension
140	--	.125	.188	.312	.188
1	--	.125	.250	.344	.188
2	2-9	.125	.562	.750	.188
3	2-16	.125	1.000	1.250	.250
3X	--	.125	1.000	1.250	.250
4	3-5	.188	.312	.438	.188
4X	--	.188	.312	.438	.188
134	3-9	.188	.562	.750	.188
134X	--	.188	.562	.750	.188
5	3-10	.188	.625	.875	.188
6	4-7	.250	.438	.625	.188
7	4-12	.250	.750	1.000	.250
8	4-16	.250	1.000	1.250	.250
8X	--	.250	1.000	1.250	.250
9	5-9	.312	.562	.812	.312
10	5-12	.312	.750	1.000	.312
118	5-13	.312	.812	1.062	.312
141	--	.375	.500	.656	.250
11	6-10	.375	.625	.875	.312
12	6-16	.375	1.000	1.250	.250
13	7-11	.438	.688	.938	.312
149	--	.500	.750	1.000	.250
14	8-13	.500	.812	1.062	.312
14X	--	.500	.812	1.062	.312
15	8-20	.500	1.250	1.500	.250
16	9-13	.562	.812	1.062	.312
17	10-14	.625	.875	1.125	.312
18	10-20	.625	1.250	1.500	.250
19	11-16	.688	1.000	1.312	.375
20	12-17	.750	1.062	1.375	.375
135	12-20	.750	1.250	1.625	.250
21	12-23	.750	1.438	1.812	.375
22	14-20	.875	1.250	1.625	.438
121	14-26	.875	1.625	2.000	.438
23	16-22	1.000	1.375	1.750	.438
24	16-30	1.000	1.875	2.250	.438
27	24-28	1.500	1.750	2.125	.438
142	--	.125	.250	.344	.218
150	--	.500	.750	1.000	.281
33	A3-5	.188	.312	.438	.250
34	A3-10	.188	.625	.875	.250
35	A4-7	.250	.438	.625	.250
36	A4-12	.250	.750	1.000	.312
38	A5-9	.312	.562	.812	.375
39	A5-12	.312	.750	1.000	.375
40	A6-10	.375	.625	.875	.375
41	A6-16	.375	1.000	1.250	.312
42	A11-16	.438	.688	.938	.375
43	A8-13	.500	.812	1.062	.375
48	B2-9	.688	1.000	1.312	.438
50	A12-23	.750	1.438	1.812	.438
52	A16-22	1.000	1.375	1.750	.500
56	A24-28	1.500	1.750	2.125	.500
64	B4-7	.250	.438	.625	.312
69	B6-10	.375	.625	.875	.438
93	C4-7	.250	.438	.625	.375





MS28775 O'Ring

Thickness	Inside Dia.	MS28775
.070	.070	004
	.102	005
	.113	006
	.145	007
	.176	008
	.208	009
	.239	010
	.301	011
	.364	012
	.426	013
	.489	014
	.551	015
	.614	016
	.676	017
	.739	018
	.801	019
	.864	020
	.932	021
	.989	022
	1.051	023
	1.114	024
	1.176	025
	1.239	026
	1.301	027
	1.364	028
	1.489	029
.103	.362	110
	.424	111
	.487	112
	.549	113
	.612	114
	.674	115
	.737	116
	.799	117
	.862	118
	.924	119
	.987	120
	1.049	121
	1.112	122
	1.174	123
	1.237	124
	1.299	125
	1.362	126
	1.424	127
	1.487	128
	1.549	129
	1.549	130
	1.674	131
	1.737	132
	1.799	133
	1.862	134
	1.925	135
	1.987	136
	2.050	137
	2.112	138
	2.175	140
	2.300	141
	2.362	142
	2.425	143
	2.487	144
	2.550	145
	2.612	146
	2.675	147
	2.737	148
	3.987	155
.139	.234	202
	.734	210
	.796	211

MS28775 O'Ring

Thickness	Inside Dia.	MS28775
.139	.859	212
	.921	213
	.984	214
	1.046	215
	1.109	216
	1.171	217
	1.234	218
	1.296	219
	1.359	220
	1.421	221
	1.484	222
	1.609	223
	1.726	224
	1.850	225
	1.980	226
	2.110	227
	2.334	228
	2.359	229
	2.484	230
	2.609	231
	2.734	232
	2.859	233
	2.984	234
	3.109	235
	3.234	236
	3.359	237
	3.484	238
	3.609	239
	3.734	240
	3.859	241
	3.984	242
	4.109	243
	4.234	244
	4.609	247
	5.984	258
	6.507	260
	6.711	261
	7.984	266
	8.204	267
	8.734	269
	10.48	275
.210	1.425	325
	1.600	326
	1.725	327
	1.850	328
	1.975	329
	2.100	330
	2.225	331
	2.350	332
	2.475	333
	2.600	334
	2.725	335
	2.855	336
	2.975	337
	3.100	338
	3.225	339
	3.350	340
	3.475	341
	3.725	343

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS28773



Back Up Retainer
Material - Teflon

Thickness	Width	Nom. Tube O.D.	MS28773
1/4	1/4	1/4	-04
5/16	5/16	5/16	-05
3/8	3/8	3/8	-06
1/2	1/2	1/2	-08
5/8	5/8	5/8	-10
3/4	3/4	3/4	-12
1	1	1	-16

MS28774



Back Up Retainer
Material - Teflon

Thickness	Width	I.D.	MS28774
.045 .052	.052 .054	.100	-004
		.148	-006
		.171	-007
		.202	-008
		.265	-010
		.327	-011
		.390	-012
		.455	-013
		.518	-014
		.580	-015
		.643	-016
		.768	-018
		.830	-019
		1.023	-022
		1.273	-026
	.085 .087	.398	-110
		.452	-111
		.515	-112
		.577	-113
		.648	-114
		.765	-116
		.832	-117
		1.459	-127
		1.522	-128
		1.834	-133
		2.022	-136
	.118 .120	.766	-210
		.828	-211
		.891	-212
		.953	-213
		1.016	-214
		1.078	-215
		1.141	-216
		1.203	-217
		1.459	-221
		1.522	-222
		1.647	-223
		1.772	-224
		2.022	-226
		2.147	-227
		2.272	-228
		2.522	-230
.065 .075	.182 .184	1.638	-326
		1.763	-327
		1.888	-328
		2.013	-329
		2.138	-330
		2.268	-331
		2.393	-332

MS28776



Scraper Piston Rod
Material - Metal

Cross-section of MS28776

MS28776	Rod O.D.	Scraper O.D.	Thickness
MS28776M2-21	2	2.282	.094
MS28776M2-22	2-1/8	2.407	.094
MS28776M2-23	2-1/4	2.532	.094

MS28777



Back Up Washer
Material - Leather

Thickness	Tubing O.D.	Inside Dia.	MS28777
.094	3/16	.2960	-3
	1/4	.3430	-4
	5/16	.4060	-5
	3/8	.4680	-6
	1/2	.6400	-8

MS28778 Packing



Material - Nitrile 90

Thickness	Tubing O.D.	Inside Dia.	MS28778
.064	1/8	.239	-2
	3/16	.301	-3
.072	1/4	.351	-4
	5/16	.414	-5
.078	3/8	.468	-6
.087	1/2	.644	-8
.097	5/8	.755	-10
.116	3/4	.924	-12
	7/8	1.047	-14
	1	1.171	-16
.118	1-1/4	1.475	-20

MS29512 PACKING

Thickness	Tubing O.D.	MS29512	Thickness	Tubing O.D.	MS29512
.064	1/8	-02	.097	9/16	-09
.064	3/16	-03	.097	5/8	-10
.072	1/4	-04	.116	3/4	-12
.072	5/16	-05	.116	7/8	-14
.078	3/8	-06	.116	1	-16
.082	7/16	-07	.118	1-1/4	-20
.087	1/2	-08			

MS29513 O'Ring

Thickness	Inside Dia.	MS29513	Thickness	Inside Dia.	MS29513
.070	.101	-005	.103	1.549	-129
	.114	-006		1.612	-130
	.145	-007		1.674	-131
	.176	-008		1.737	-132
	.208	-009		1.799	-133
	.239	-010		1.862	-134
	.301	-011		1.925	-135
	.364	-012		1.987	-136
	.426	-013		2.050	-137
	.489	-014		2.112	-138
	.551	-015		2.737	-148
	.614	-016	.139	.734	-210
	.676	-017		.859	-212
	.739	-018		.921	-213
	.801	-019		.984	-214
	.864	-020		1.046	-215
	.926	-021		1.109	-216
	.986	-022		1.171	-217
	1.051	-023		1.234	-218
	1.114	-024		1.296	-219
	1.176	-025		1.359	-220
	1.239	-026		1.484	-222
	1.301	-027		1.609	-223
	1.489	-029		1.734	-224
	1.739	-031		1.859	-225
	2.114	-034		1.984	-226
.103	.362	-110		2.109	-227
	.424	-111		2.484	-230
	.487	-112		2.609	-231
	.549	-113		2.734	-232
	.612	-114		2.859	-233
	.674	-115		2.984	-234
	.737	-116		3.109	-235
	.799	-117		3.234	-236
	.862	-118		3.359	-237
	.924	-119		3.484	-238
	.987	-120		3.734	-240
	1.049	-121		3.859	-241
	1.112	-122		4.109	-243
	1.174	-123	.210	1.725	-327
	1.362	-126		3.100	-338
	1.424	-127			

Thickness and Inside Diameter Dimensions Deviate ± .003 to ± .005
Larger O'Ring Dimensions Deviate ± .01 on I.D.

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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MS29561 O'Ring

Thick	Inside Dia.	MS29561
.070	.176	-008
	.239	-010
	.301	-011
	.364	-012
	.426	-013
	.489	-014
	.551	-015
	.676	-017
	.864	-020
	.926	-021
	.989	-022
	1.114	-024
	1.176	-025
	1.239	-026
.103	.362	-110
	.424	-111
	.487	-112
	.549	-113
	.612	-114
	.674	-115
	.737	-116
	.924	-119
	1.049	-121
	1.925	-135
	2.112	-138
.139	.734	-210
	.859	-212
	.859	-213
	.984	-214
	1.046	-215
	1.234	-218
	1.296	-219
	2.484	-230
	2.734	-232
	2.984	-234
	3.109	-235
	3.234	-236
	3.359	-237
	3.484	-238
	3.609	-239
	4.734	-244
	4.234	-248

MS9385 O'Ring

MS9385
-03
-04
-05
-06
-07
-08
-09
-12

M25988/1 O'Ring

M25988/1
-010
-011
-012
-015
-016
-017
-022
-026
-037
-111
-115
-134
-138
-142
-152
-153
-212
-235
-271
-382
-902
-903
-904
-906
-908
-912
-916
-928

M25988/2 O'Ring

M25988/2-032
M25988/2-904
M25988/3-009
M25988/3-013
M25988/3-014
M25988/4-010
M25988/4-904

M83461/1 O'Ring

M83461/1	M83461/1
-010	-136
-011	-141
-012	-210
-013	-212
-014	-215
-015	-216
-016	-218
-018	-222
-020	-224
-024	-226
-110	-227
-111	-236
-112	-326
-117	-328
-130	-330
-135	

M83248/1 O'Ring

M83248/1	M83248/1
-002	-140
-003	-141
-004	-142
-006	-143
-007	-144
-008	-145
-009	-146
-010	-151
-011	-152
-012	-153
-013	-154
-014	-157
-015	-158
-016	-159
-017	-162
-018	-208
-019	-210
-020	-212
-021	-213
-022	-214
-023	-215
-024	-216
-025	-217
-026	-218
-027	-219
-028	-220
-029	-222
-030	-224
-031	-226
-032	-227
-033	-228
-034	-230
-035	-231
-036	-232
-037	-234
-038	-235
-039	-236
-040	-237
-041	-238
-043	-239
-110	-240
-111	-241
-112	-242
-113	-243
-114	-244
-115	-246
-116	-247
-117	-248
-118	-249
-119	-251
-120	-254
-121	-258
-122	-259
-123	-264
-125	-266
-126	-277
-127	-278
-128	-902
-129	-903
-130	-904
-131	-905
-133	-906
-134	-907
-135	-908
-136	-910
-137	-912
-138	-916
-139	-920

Thickness and Inside Diameter Dimensions Deviate ±.003 to ±.005
Larger O'Ring Dimensions Deviate ±.01 on I.D.

NAS617 Packing

Thickness	Tubing O.D.	NAS617
.064	1/8	-2
.064	3/16	-3
.072	1/4	-4
.072	5/16	-5
.078	3/8	-6
.087	1/2	-8
.097	5/8	-10
.116	3/4	-12
.116	1	-16
.118	1-1/4	-20

NAS1611

Pre Formed O'Ring Packing

NAS1611	NAS1611
-009	-110A
-009A	-111
-010	-112
-010A	-114
-012	-116
-012A	-117
-014A	-120
-015	-132A
-017A	-214A
-018A	-216A
-020A	-218
-024A	-220
-026A	-223
-028A	-228A
-110	-260A

NAS1523

Packing with Retainer

"C" after Base Part # indicates Corrosion Resistant Retainer
"-" after Base Part # indicates Steel Retainer
"R" after Dash # indicates Fluorinated Silicone Materials Per MIL-R-25988
"Y" after Dash # indicates Buna -N Material Per MIL-R-7362 Type I
"AA " after Base Part # indicates Aluminum Alloy

Screw Size	O.D.	I.D.	NAS1523
#8	.375	.156	-08Y
#10	.438	.190	-3R
			-3Y
			AA3R
			C3R
			C3Y
1/4	.500	.240	-4R
			-4Y
			AA4R
			C4N
			C4R
			C4Y
5/16	.593	.301	-5Y
			C5R

NAS1612 Packing

O.D.	I.D.	NAS1612
1/8	.239	-2A
3/16	.301	-3A
1/4	.351	-4A
5/16	.414	-5A
3/8	.468	-6A
1/2	.644	-8A
5/8	.755	-10A
3/4	.924	-12A

AS3084

AS3084
-03
-04
-05
-06
-08
-12

AS3085 O'Ring

AS3085	AS3085
-007	-023
-008	-024
-010	-028
-011	-031
-012	-041
-013	-111
-014	-113
-015	-116
-016	-119
-017	-122
-018	-123
-019	-124
-020	-126
-022	-158

AS3209 O'Ring

AS3209	AS3209
-008	-030
-009	-038
-010	-040
-011	-043
-012	-113
-013	-114
-014	-115
-015	-116
-016	-120
-017	-122
-018	-126
-019	-139
-020	-140
-022	-143
-024	-145
-025	-146
-028	-214
-029	-224

AS3578 O'Ring

(Supersedes MS9021)

AS3578
-010
-016
-017
-034
-035
-038
-251
-268
-903
-904
-905
-906
-908

AS3582 O'Ring

AS3582
-012
-013
-014
-116
-119

AS3208 O'Ring

AS3208	AS3208
-03	-06
-04	-08
-05	-10

S9412 O'Ring

S9412	S9412
-010	-136
-011	-139
-012	-212
-013	-552
-014	-553
-015	-554
-021	-555
-028	-556
-032	-558

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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O'RINGS

Government and Military Specifications

Drawing Number	Compound Specification	Temperature Range, °F	Description
AN6227B	MIL-P-5516 Class B	-65 to 275	PACKING, O'Rings for use in hydraulic systems and shock absorbers using MIL-H-5606 fluids.
AN6230B	MIL-P-5516 Class B	-65 to 275	GASKET, O'Ring - O'Rings for use in hydraulic systems using MIL-H-5606 fluids
NAS1593	MIL-R-25897 Type 1, Class 1	-20 to 400	PACKING PREFORMED - 75 Shore "A" harness fluoroelastomer O'Rings for aircraft and aerospace applications
MS9020	AMS 7271	-65 to 225	PACKING PREFORMED - AMS 7271. O'Ring for straight thread tube fitting boss gaskets with hydrocarbon fuels.
MS9021	AMS 7271	-65 to 225	PACKING PREFORMED - AMS 7271, O'Rings - Fuel and low temperature resistant.
MS9068	AMS 3304	-80 to 450	PACKING PREFORMED - AMS 3304, O'Ring - For air and gases. Static seals only.
MS9385	AMS 7267	-80 to 500 in air	GASKET - STRAIGHT THREAD TUBE FITTING, BOSS - Silicone rubber.
MS9386	AMS 7267	-80 to 500 in air	RINGS, SEALING, SILICONE RUBBER - Heat Resistant. Low Compression Set.
MS9388	AMS 7278	-20 to 400	RINGS, SEALING - High Temperature Fluid Resistant, Fluorocarbon Type.
MS28775	MIL-P-25732	-65 to 275	PREFORMED PACKING O'Rings for hydraulic systems
MS28778	MIL-P-5510	-65 to 212	PREFORMED PACKING STRAIGHT THREAD TUBE FITTING BOSS. O'Ring for + 160 °F hydraulic fluid systems per MIL-H-5606
MS29512	MIL-P-5315	-65 to 200	PREFORMED PACKING, HYDROCARBON FUEL RESISTANT, TUBE FITTING, O'Rings of the sizes shown in MS29512 and one grade only.
MS29513	MIL-P-5315	-65 to 200	PREFORMED PACKING, HYDROCARBON FUEL RESISTANT, O'Ring of the sizes shown on MS29513 and one grade only.
MS29561	MIL-R-7362 Type 1	-65 to 257	PREFORMED PACKING, SYNTHETIC LUBRICANT RESISTANT O'Ring for MIL-L-7807 fluids. (Use NAS617 for tube fitting gaskets).
M25988/1	MIL-R-25988 Class 1, Grade 70	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M25988/3	MIL-R-25988 Class 1, Grade 60	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M25988/4	MIL-R-25988 Class 1, Grade 80	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M83248/1	MIL-R-83248 Class 1	-20 to 400	FLUOROCARBON O'Rings - High Temperature, Fluid and Compression Set Resistant.
M83248/2	MIL-R-83248 Class 2	-20 to 400	FLUOROCARBON O'Rings - High Temperature, Fluid and Compression Set Resistant
NAS617	MIL-R-7362	-65 to 257	PREFORMED PACKING, STRAIGHT THREAD TUBE FITTING BOSS O'Ring for use with MIL-L-6387 or Mll-L-7808 fluids.
NAS1611	NAS1613 Class 1	-65 to 300	PREFORMED PACKING, O'Ring, PHOSPHATE ESTER RESISTANT. Dash numbers correspond to AS568A Universal Series.
NAS1612	NAS1613 Class 2	-65 to 300	PACKING PREFORMED, STRAIGHT THREAD TUBE FITTING BOSS, PHOSPHATE ESTER RESISTANT. Dash numbers correspond to MS28778
S9412	N/A	N/A	GARRETT PART NUMBERS: For O'Rings used in fuel systems. Blue in color.
S9413	N/A	N/A	GARRETT PART NUMBER: For O'Rings used in the propeller section of the engine. Blue in color.

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

O'RING KIT #1

10 pcs. of each

MS28775-006	THRU	MS28775-015
MS28775-110	THRU	MS28775-116
MS28775-210	THRU	MS28775-235
MS28775-238,		MS28775-260
MS28775-327	THRU	MS28775-330

O'RING KIT #2

10 pcs. of each

MS28778-2
MS28778-3
MS28778-4
MS28778-5
MS28778-6
MS28778-8

O'RING KIT #3

10 pcs. of each

MS29512-04
MS29512-05
MS29512-06
MS29512-08
MS29512-10
MS29512-12

O'RING KIT #4

10 pcs. of each

MS29513-010	MS29513-137
MS29513-011	MS29513-138
MS29513-012	MS29513-232
MS29513-017	MS29513-238
MS29513-020	MS29513-338
MS29513-111	

O'RING KIT #5

10 pcs. of each

M83248/1-010	M83248/1-114
M83248/1-011	M83248/1-115
M83248/1-012	M83248/1-214
M83248/1-013	M83248/1-904
M83248/1-014	M83248/1-905
M83248/1-024	M83248/1-906
M83248/1-113	M83248/1-908

O'RING KIT #6

10 pcs. of each

AS3084-03	AS3085-028
AS3084-04	AS3085-041
AS3084-05	AS3085-113
AS3085-014	AS3208-04
AS3085-015	AS3209-009
AS3085-016	AS3578-251
AS3085-017	AS3582-012
AS3085-018	AS3582-013

ASSORTED O'RING KIT #1

10 pcs. of each

MS28778-2	MS28775-006	MS29512-02
MS28778-3	MS28775-007	MS29512-04
MS28778-4	MS28775-008	MS29512-05
MS28778-5	MS28775-009	MS29512-06
MS28778-6	MS28775-010	MS29512-08
MS28778-7	MS28775-011	MS29512-10
MS28778-8	MS28775-012	MS29512-12
MS28778-10	MS28775-013	
MS28778-12	MS28775-014	
	MS28775-015	

MS29513-010	MS29513-214	MS29513-238
MS29513-011	MS29513-232	MS29513-338

ASSORTED O'RING KIT #2

10 pcs. of each

MS28775-006	MS28778-2	M83248/1-010
MS28775-007	MS28778-3	M83248/1-011
MS28775-008	MS28778-4	M83248/1-012
MS28775-009	MS28778-5	M83248/1-013
MS28775-010	MS28778-6	M83248/1-014
MS28775-011	MS28778-7	M83248/1-015
MS28775-012	MS28778-8	M83248/1-016
MS28775-013	MS28778-10	M83248/1-017
MS28775-014	MS28778-12	M83248/1-018
MS28775-015	MS29512-02	M83248/1-113
MS29513-010	MS29512-04	M83248/1-904
MS29513-011	MS29512-05	M83248/1-905
MS29513-214	MS29512-06	M83248/1-906
MS29513-232	MS29512-08	M83248/1-908
MS29513-338	MS29512-10	
	MS29512-12	

ASSORTED O'RING KIT #3

This kit contains all parts from:

O'ring Kit #1
O'ring Kit #2
O'ring Kit #3

ASSORTED O'RING KIT #4

This kit contains all parts from:

O'ring Kit #1
O'ring Kit #2
O'ring Kit #3
O'ring Kit #4

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

LIGHTING - LAMPS & BULBS

SEALED BEAM LAMPS

Landing and Taxi Lighting



Sealed Beam Lamps		Quartz Lamps
4313	4580	Q4509
4509	4581	Q4554
4522	4587	Q4559
4551	4591	Q4559X
4552	4594	Q4591
4553	4595	Q4566
4557	4596	Q4681
4559	4626	Q4631
4570		

MINIATURE & SUBMINIATURE BULBS

Panel, Warning and Tail Lighting



Lamp #		
303	328	1777
304	330	1940
305	334	1495X
307	356	1939X
308	387	6838
313	1495	6839
327	1683	A4174-24
		M6363/2-2

FUSES & FUSE HOLDERS

FUSES

Glass Enclosed





AGC SERIES

(1/4 x 1-1/4 inches)

Standard, Single Element, Glass tube, Fast-acting to protect sensitive instruments and radio.

Part #	Amps	Part #	Amps
AGC-1/8	1/8	AGC-5	5
AGC-1/4	1/4	AGC-7	7
AGC-1/2	1/2	AGC-7-1/2	7-1/2
AGC-3/4	3/4	AGC-10	10
AGC-1	1	AGC-15	15
AGC-1-1/2	1-1/2	AGC-20	20
AGC-2	2	AGC-25	25
AGC-3	3	AGC-30	30
AGC-4	4	AGC-35	35

MDL SERIES

(1/4 x 1-1/4 inches)

Slow Blow, Dual Element. Fuse link operates on very high overloads to avoid needless blows. Thermal cutout functions on low overload.

Slow Blow Type Part #	Amps	Slow Blow Type Part #	Amps
MDL-1/2	1/2	MDL-5	5
MDL-1	1	MDL-10	10
MDL-2	2	MDL-15	15
MDL-3	3	MDL-20	20
MDL-4	4	MDL-30	30

FUSE HOLDERS

HKP

Standard for 1/4" x 1-1/4" Fuses



HRJ

In-Line Fuseholder for SFE and 1/4" x various length fuses (Includes SFE-20 Fuse)



M39029 CONNECTOR CONTACTS



Part Number	Configuration	Size	Fits Series
M39029/1-100	PIN	16	MIL-T-81714 TERMINAL JUNCTION
M39029/1-101		16	
M39029/1-102		14	
M39029/1-103		12	
M39029/4-110		20	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/4-111		16	
M39029/4-113		12	
M39029/5-115	SOCKET	20	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/5-116		16	
M39029/5-117		16	
M39029/5-118		12	
M39029/5-119		12	
M39029/10-141	SOCKET	20	MIL-C-83723 SER III MIL-C-83733
M39029/10-142		20	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/11-144	PIN	22	MIL-C-81659 SERIES II R
M39029/11-145		20	
M39029/12-148	SOCKET	22	MIL-C-81569 SERIES II INACTIVE NEW DESIGN
M39029/12-149		20	
M39029/22-191	SOCKET	22	MIL-T-81714 TERMINAL JUNCTION SYSTEM
M39029/22-192		20	
M39029/22-193		16	
M39029/29-212	PIN	16	MIL-T-5015 SERIES MS3450 MIL-C-83723 SER II
M39029/29-213		12	
M39029/30-217	SOCKET	16	MIL-T-5015 SERIES MS3450 MIL-C-83733 SER II
M39029/30-218		16	
M39029/30-219		12	

Part Number	Configuration	Size	Fits Series
M39029/31-229	PIN	16	MIL-C-26482 SER I MIL-C-26500 MIL-C-26518
M39029/31-240	PIN	20	
M39029/31-241		20	
M39029/32-248	SOCKET	16	
M39029/32-259		20	
M39029/32-260		20	
M39029/56-348	SOCKET	22	MIL-C-38999 SERIES I,III, & IV
M39029/56-351		20	
M39029/56-352		16	
M39029/56-353		12	
M39029/57-354		22	MIL-C-24308 MIL-C-38999 SER II MIL-C-83733
M39029/57-357		20	
M39029/57-358		16	
M39029/57-359		12	
M39029/58-360	PIN	22	MIL-C-24308 MIL-C-38999 SER I-IV MIL-C-55302/69 MIL-C-83733
M39029/58-363		20	
M39029/58-364		16	
M39029/58-365		12	
M39029/63-368	SOCKET (SHIELDED)	20	MIL-C-38999 SERIES I,III, & IV
M39029/75-416	SOCKET (SHIELDED)	12	MIL-C-38999 SERIES I,III, & IV
M39029/75-417		12	
M39029/75-422		12	
M39029/76-424	PIN (SHIELDED)	16	MIL-C-38999 SERIES I, II, III, & IV

MS27488 CONNECTOR SEALING PLUGS



Part Number	Contact Size	Color Code
MS27488-22-1	22	Black
MS27488-20-1	20	Red
MS27488-16-1	16	Blue
MS27488-12-1	12	Yellow
MS27488-8-1	8	Red

M81969 INSERTION/EXTRACTION TOOL



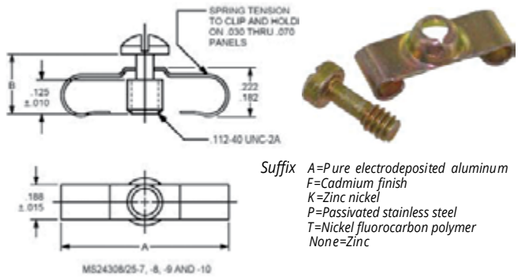
Part Number	Contact Size	Color Code
M81969/1-01	22	Green/White
M81969/1-02	20	Red/White
M81969/1-03	16	Blue/White
M81969/1-04	22D	Green/White
M81969/14-01	22	Green/White
M81969/14-02	20	Red/White
M81969/14-03	16	Blue/White
M81969/14-04	12	Yellow/White
M81969/14-10	20	Red/Orange
M81969/14-11	20	Red/White

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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M24308/25

Male screwlock assembly. Electric, miniature, rectangular, polarized shell, rack and panel



Suffix A=Pure electrodeposited aluminum
F=Cadmium finish
K=Zinc nickel
P=Passivated stainless steel
T=Nickel fluorocarbon polymer
None=Zinc

M24308/26

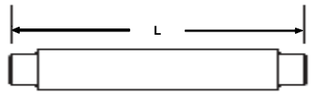
Female screwlock assembly for miniature, rectangular, electric, rack and panel
M24308/26-1F - Contains 2 jack screws, 4 flat washers, 2 lockwashers, and 2 nuts (see image below)
M24308/26-1Z - Contains 1 screw, 2 flat washers, 1 lockwasher and 1 nut

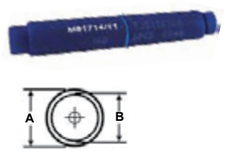


M81714/11- #D

Terminal junction blocks, Sectional, Wire in-line junctions, Single, Series I

Contacts and Installation / Removal tool sold separately.





Part Number Example

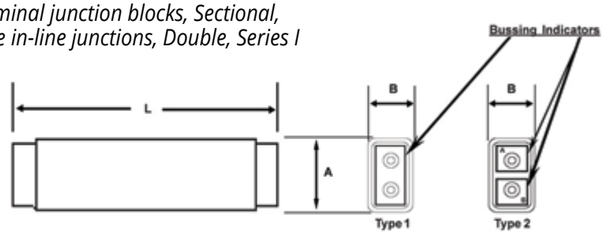
M 81714/11 - ** D
- Dash Number
- Class
- Size
- Specification Sheet Number
- Military Part # Indicator Number

Part Number	Body			Contact Part Number	Installation/ Removal Tool
	A Dia. ± .025	B Dia. Max	L Max		
M81714/11-22D	.250	.225	1.552	M39029/1-100	M81969/14-02
M81714/11-20D	.250	.225	1.552	M39029/1-101	M81969/14-02
M81714/11-16D	.281	.256	1.922	M39029/1-102	M81969/14-03
M81714/11-12D	.344	.319	1.922	M39029/1-103	M81969/14-04

M81714/12- #D

Terminal junction blocks, Sectional, Wire in-line junctions, Double, Series I

Contacts and Installation / Removal tool sold separately.



Part Number Example

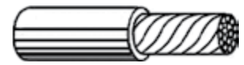
M 81714/12 - ** D - *
- Dash Number
- Type Designator
- Class
- Component Size
- Specification Sheet Number
- Military Part # Indicator Number

Part Number	Type	Body				Contact Part Number	Installation/ Removal Tool
		A Dia. Max	B Dia. Max	C ± .01	L Max		
M81714/12-22D	1 or 2	.400	.275	.13	1.552	M39029/1-100	M81969/14-02
M81714/12-20D	1 or 2	.400	.275	.13	1.552	M39029/1-101	M81969/14-02
M81714/12-16D	1 or 2	.500	.300	.18	1.922	M39029/1-102	M81969/14-03
M81714/12-12D	1 or 2	.620	.370	.25	1.922	M39029/1-103	M81969/14-04

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

AIRCRAFT WIRE

Per MIL-W-22759/16
(-9 indicates white) *(-0 indicates black)*



Part #	AWG Size
M22759 / 16-22-9	22
M22759 / 16-20-9	20
M22759 / 16-18-9	18
M22759 / 16-16-9	16
M22759 / 16-14-9	14
M22759 / 16-12-9	12
M22759 / 16-10-9	10
M22759 / 16-8-9	8
M22759 / 16-6-9	6

M27500 TEFZEL CABLE

Shielded & Jacketed, MIL-W-22759



M27500	Conductors	AWG Size
-16TG1T14	1	16
-18TG1T14	1	18
-20TG1T14	1	20
-20TG2T14	2	20
-22TG1T14	1	22
-22TG2T14	2	22
-22TG3T14	3	22

TERMINAL END SPLICE

Closed End Wire Cap, PIDG Series, Tin Plated Copper, Nylon Insulated



Part #	AWG	Color Code
324484	26-16	Clear
324485	22-16	Red
324486	16-14	Blue

D436

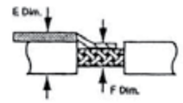
Mini-Seal Crimp Splices



Part #	Gauge Size
D436-36	20-26
D436-37	16-20
D436-38	12-18

D142

Solder Sleeves



Part #	E Dim.	F Dim.
D142-50	.125	.055
D142-51	.200	.100
D142-52	.300	.160

SPIRAL WRAP

Per MIL-P-20693 Type I
Operating Temp - 85°C to 93° C



SPN - Natural/Nylon *SPB - Black/U/V Resistan Polyethylene* *SPT - Teflon - Call for Pricing*

SPN		SPB		Nom. O. D.	Wall Thickness	Pitch	Diameter
Old #	New #	Old #	New #				
SPN-1/8	SW-20	SPB-1/8	SW-40	.125	.015	1/16	1/2
SPN-1/4	SW-21	SPB-1/4	SW-41	.250	.025	9/32	2
SPN-3/8	SW-22	SPB-3/8	SW-42	.375	.035	3/8	3
SPN-1/2	SW-23	SPB-1/2	SW-43	.500	.035	1/2	4

MS25083

Bonding Jumpers
Call for prints if technical information is required.



MS25083	MS25083
1BB7	2AB6
1BB8	2AB7
2AA3	2AB8
2AA4	2BB2
2AA5	2BB3
2AA6	2BB4
2AA7	2BB5
2AA8	2BB6
2AB3	2BB7
2AB4	2BB8
2AB5	2BB10
2BC4	5BB8
2BC5	5BB9
2BC6	5BB10
2BC7	5BB12
2BC8	5BB15
2BC9	6DD5
5BB4	6DE7
5BB5	7AB10
5BB6	7BB6
5BB7	7BB8

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

MS25274
Wire Cap



MS25274	Amp #	Wire Size	Color
-2	328307	22-18-AWG	RED
-3	328308	16-14-AWG	BLUE
-4	328309	12-10-AWG	YELLOW

MS25171-#S
Nipple, Electrical



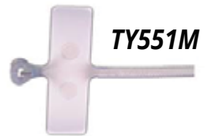
MS25171-	Length
1S	1.38
2S	2.50
3S	2.50
4S	2.50

MS3367
Tie Wraps / Thomas & Betts
Clear Color or Black (T&B - Metal Clip)
For Clear use (-9), For Black use (-0)



MS3367	T & B Part #	MS3367	T & B Part #	Max Dia.	Length (inches)	Width	Tensile Strength
-1-9	TY25M	-1-0	TY25MX	1-3/4	7	.190	50 lb.
-2-9	TY28M	-2-0	TY28MX	4	14	.192	50 lb.
-3-9	TY27M	-3-0	TY27MX	3-1/2	13-1/8	.310	120 lb.
-4-9	TY23M	-4-0	TY23MX	5/8	3-1/2	.100	18 lb.
-5-9	TY24M	-5-0	TY24MX	1-1/4	5-1/4	.146	30 lb.
-6-9	TY29M	-6-0	TY29MX	8	30	.310	120 lb.
-7-9	TY253M	-7-0	TY253MX	3	11-3/8	.192	50 lb.

TY-Rap® Identification Cable Ties



TY551M



TY553M



TY546M

Part#	Max Dia.	Length	Marking Pad Size	Tensile Strength
TY551M	.625	3.60	1 x .313	18 lb.
TY553M	.625	4.00	.813 x .359	18 lb.
TY546M	1.75	7.25	5 x .875	50 lb.

TY-Rap® Mounting Head Cable Ties

TY533MX



TY534MX



TY535MX



Part#	Body Width	Length	Mounting Hole	Tensile Strength
TY533MX	.091	4.00	#4	18
TY534MX	.140	6.00	#8	40
TY535MX	.184	7.80	#10	50

Nylon 6/6 Weather Resistant Cable Ties
Recommended for outdoor use



Part#	Body Width	Length	Tensile Strength
TY5244MX	.140	14.50	30 lb.
TY526MX	.140	11.10	30 lb.
TY5272MX	.270	8.75	50 lb.

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

Potter & Brumfield Circuit Breakers
Series W23

Single Pole with white band around body of reset button that is visible if breaker trips.



Part #	Rating	Part #	Rating
W23-X1A1G-.5	1/2 amp	W23-X1A1G-15	15 amps
W23-X1A1G-1	1 amp	W23-X1A1G-20	20 amps
W23-X1A1G-2	2 amps	W23-X1A1G-25	25 amps
W23-X1A1G-3	3 amps	W23-X1A1G-30	30 amps
W23-X1A1G-5	5 amps	W23-X1A1G-35	35 amps
W23-X1A1G-7.5	7.5 amps	W23-X1A1G-40	40 amps
W23-X1A1G-10	10 amps	W23-X1A1G-50	50 amps

Potter & Brumfield Circuit Breakers
Series W58

Single pole with recessed reset button. Red band around reset button for visible trip indication.



Part #	Rating	Part #	Rating
W58-XC4C12A-1	1 amp	W58-XC4C12A-8	8 amps
W58-XC4C12A-2	2 amps	W58-XC4C12A-10	10 amps
W58-XC4C12A-3	3 amps	W58-XC4C12A-15	15 amps
W58-XC4C12A-4	4 amps	W58-XC4C12A-20	20 amps
W58-XC4C12A-5	5 amps	W58-XC4C12A-25	25 amps
W58-XC4C12A-7	7 amps	W58-XC4C12A-30	30 amps

Potter & Brumfield Circuit Breakers
Series W31

Combination single pole switch and circuit breaker



Part #	Rating	Part #	Rating
W31-X2M1G-2	2 amps	W31-X2M1G-25	25 amps
W31-X2M1G-5	5 amps	W31-X2M1G-30	30 amps
W31-X2M1G-7.5	7.5 amps	W31-X2M1G-35	35 amps
W31-X2M1G-10	10 amps	W31-X2M1G-40	40 amps
W31-X2M1G-15	15 amps	W31-X2M1G-50	50 amps
W31-X2M1G-20	20 amps		

Klixon Circuit Breakers
Series 7277-2

Low amperage general application



Part #	Rating	Part #	Rating
7277-2-1/2	1/2 amp	7277-2-5	5 amps
7277-2-1	1 amp	7277-2-7-1/2	7.5 amps
7277-2-2	2 amps	7277-2-10	10 amps
7277-2-2-1/2	2.5 amps	7277-2-15	15 amps
7277-2-3	3 amps	7277-2-20	20 amps
7277-2-4	4 amps		

Klixon Circuit Breakers
Series 7274

Low Amperage
High Performance





Klixon Part #	MS #
7274-2-1	MS26574-1
7274-2-2	MS26574-2
7274-2-3	MS26574-3
7274-2-4	MS26574-4
7274-2-5	MS26574-5
7274-2-7.5	MS26574-7.5
7274-2-10	MS26574-10
7274-2-15	MS26574-15

Klixon Part #	MS #
7274-11-1	MS22073-1
7274-11-1.5	MS22073-1.5
7274-11-2	MS22073-2
7274-11-2.5	MS22073-2.5
7274-11-3	MS22073-3
7274-11-4	MS22073-4
7274-11-5	MS22073-5
7274-11-7.5	MS22073-7.5
7274-11-10	MS22073-10
7274-11-15	-----

MS3320 Circuit Breaker
Series 2TC2,



Miniature,
Trip Free

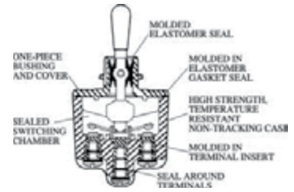
Klixon Part #	MS #
2TC2-1	MS3320-1
2TC2-2	MS3320-2
2TC2-3	MS3320-3
2TC2-5	MS3320-5
2TC2-7.5	MS3320-7.5
2TC2-10	MS3320-10
2TC2-15	MS3320-15
2TC2-20	MS3320-20

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS24523
MS24524

Toggle Switch
Environmentally Sealed
Maintained and Momentary Toggle Action





MS24523 - 2 Position, 1 Pole			MS24524 - 2 Position, 2 Poles		
MS24523	Keyway Position	Opposite Keyway	MS24524	Keyway Position	Opposite Keyway
-22	OFF	2-3	-22	OFF	2-3, 5-6
-29	OFF*	2-3	-30	1-2, 4-5*	OFF
-30	1-2*	OFF	-23	1-2, 4-5	2-3, 5-6
-23	1-2	2-3	-26	1-2, 4-5*	2-3, 5-6

MS24524 - 3 Position, 2 Poles			
MS24524	Keyway Position	Center Position	Opposite Keyway
-21	1-2, 4-5	OFF	2-3, 5-6
-31	1-2, 4-5*	OFF	2-3, 5-6
-27	1-2, 4-5*	OFF	2-3, 5-6

**These positions only are momentary. All other positions are maintained.*
MS35058 *(One Pole) and* ***MS35059*** *(Two Pole) are inactive for new design but Monre Aerospace stocks the series for older aircraft requiring older callout.*

MS25223 & MS25224

Switch Guard


MS25223


MS25224

Part #	Type Mounting	Panel Thickness
MS25223-2	1 Hole	.050-.248
MS25224-1	1 Hole	.050-.248
MS25224-2	3 Hole	.050-.081
MS25224-3	1 Hole	.050-.248

MS25041

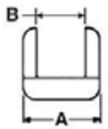
Indicator Light
Press to Test



MS25041 With Dimmer	MS25041 Without Dimmer	Lens Color
-1	-5	Colorless
-2	-6	Red
-3	-7	Green
-4	-8	Yellow
-10	-11	Blue

MS21266

Grommet Edging (1 Ft. Lengths)





MS21266	Sheet Thickness	A Width	B Width
-1N	.015-.052	.150	.056
-2N	.052-.085	.175	.090
-3N	.085-.128	.220	.131
-4N	.128-.192	.325	.195

HEAT SHRINK TUBING

Per MIL-I-23053/5 (Sold in 4 Ft. Sections)
*Add "***0***" to indicate Black*
*Add "***9***" to indicate White*
*Add "***C***" to indicate Clear*



Part # For Black & White	Part # For Clear	Diameter	Inner Diameter	
			Before Shrink	After Shrink
M23053/5-102-( )	M23053/5-202-( )	1/16	.0625	.031
M23053/5-103-( )	M23053/5-203-( )	3/32	.0938	.046
M23053/5-104-( )	M23053/5-204-( )	1/8	.125	.062
M23053/5-105-( )	M23053/5-205-( )	3/16	.1875	.093
M23053/5-106-( )	M23053/5-206-( )	1/4	.25	.125
M23053/5-107-( )	M23053/5-207-( )	3/8	.375	.187
M23053/5-108-( )	M23053/5-208-( )	1/2	.5	.25
M23053/5-109-( )	M23053/5-209-( )	3/4	.75	.375
M23053/5-110-( )	M23053/5-210-( )	1	1	.5

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

THOMAS & BETTS STA-KON® TERMINALS

Sta-Kon® Nylon Insulated Ring - Insulation Grip



Part#	Wire Range	Bolt Hole
RZ22-4	26-22	#4
RZ22-6		#6
RZ22-8		#8
RZ22-10		#10
RA18-4	22-16	#4
RA18-6		#6
RA18-8		#8
RA18-10		#10
RA18-14		1/4
RB14-4	18-14	#4
RB14-6		#6
RB14-8		#8
RB14-10		#10
RB14-14		1/4
RC10-6	12-10	#6
RC10-8		#8
RC10-10		#10
RC10-14		1/4

Sta-Kon® Nylon Insulated Splices - Aircraft System Splices



Part#	Wire Range
2RAA	22-18
2RBB	16-14
2RCC	12-10

Sta-Kon® Nylon Insulated Splices - Butt Type - Insulation Support



Part#	Wire Range
2RA18	22-18
2RB14	16-14
2RC10	12-10

Non-Insulated Ring


F4-14 ***F71***

Part#	Wire Range	Bolt Hole
F4-14	4-3	1/4"
F71*		1/4"

Sta-Kon® Wristlock Disconnect


RA18D ***RB14D***

Part#	Wire Range
RA18D	22-18
RB14D	16-14

Vinyl Insulated Ring - Insulation Support



Part#	Alternate	Wire Range	Bolt Hole
18RA-6	RA857	22-16	#6
14RB-6	RB857	18-14	#6
14RB-8	RB867		#8
10RC-10	RC367	12-10	#10

Ty-Rap® Two Direction Mounting Base





Part#	Alternate	Screw Size	Max Width	Length
TC5828	TC828-T13	#8	.390	.875

Nylon Insulated Ring



Part#	Wire Range	Bolt Hole
RD8-10	9-8-7	#10
RD8-38		3/8"
RF4-10	4-3	#10
RF4-14		1/4"
RF4-516		5/16"
RF4-38		3/8"
RG2-10	2-1	#10
RG2-14		1/4"
RG2-38		3/8"

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS25036

Ring Terminal, Insulated



MS25036	AMP #	Stud Size	Terminal Size	Style/Color
148	320553	#4	22 - 18 AWG	PIDG / RED
101	36149	#6	22 - 18 AWG	PIDG / RED
102	51863	#6	22 - 18 AWG	PIDG / RED
149	320551	#8	22 - 18 AWG	PIDG / RED
103	36153	#10	22 - 18 AWG	PIDG / RED
150	320571	1/4	22 - 18 AWG	PIDG / RED
104	320572	5/16	22 - 18 AWG	PIDG / RED
105	320573	3/8	22 - 18 AWG	PIDG / RED
152	324159	#4	16 - 14 AWG	PIDG / BLUE
106	320561	#6	16 - 14 AWG	PIDG / BLUE
153	51864-1	#8	16 - 14 AWG	PIDG / BLUE
108	51864-2	#10	16 - 14 AWG	PIDG / BLUE
154	320563	1/4	16 - 14 AWG	PIDG / BLUE
110	320564	3/8	16 - 14 AWG	PIDG / BLUE
156	320568	#8	12 - 10 AWG	PIDG / YELLOW
112	36161	#10	12 - 10 AWG	PIDG / YELLOW
157	320569	1/4	12 - 10 AWG	PIDG / YELLOW
113	320576	5/16	12 - 10 AWG	PIDG / YELLOW
115	322128	#10	8 AWG	AMPLI-BOND / RED
116	322049	1/4	8 AWG	AMPLI-BOND / RED
117	322003	5/16	8 AWG	AMPLI-BOND / RED
118	322004	3/8	8 AWG	AMPLI-BOND / RED
120	322051	1/4	6 AWG	AMPLI-BOND / BLUE
121	324048	5/16	6 AWG	AMPLI-BOND / BLUE
123	322053	1/4	4 AWG	AMPLI-BOND / YELLOW
124	324051	5/16	4 AWG	AMPLI-BOND / YELLOW
125	322011	3/8	4 AWG	AMPLI-BOND / YELLOW

M7928/5

Butt Splice, Knife Splice



MIL #	AMP #	Wire Size	Style / Color	Type
M7928/5-2	323975	24 - 20 AWG	PIDG / TRANS.	Butt Splice
M7928/5-3	320559	22 - 18 AWG	PIDG / RED	Butt Splice
M7928/5-4	320562	16 - 14 AWG	PIDG / BLUE	Butt Splice
M7928/5-5	320570	12 - 10 AWG	PIDG / YELLOW	Butt Splice
---	32446	22 - 18 AWG	PIDG / RED	Knife Splice
---	32448	16 - 14 AWG	PIDG / BLUE	Knife Splice

M83519

Terminal Shield
Solder Style
Insulated Heat Shrinkable



Part #	A ±.07	B Min.	C Min.	D Min.
M83519/1-1	.650	0.075	0.105	0.325
M83519/1-2	.650	0.105	0.145	0.325
M83519/1-3	.650	0.170	0.200	0.325
M83519/1-4	.750	0.235	0.255	0.325
M83519/1-5	.750	0.275	0.300	0.325

Part #	A ±.07	B Min.	C Min.	D Min.
M83519/2-2	.650	0.105	0.145	0.325
M83519/2-3	.650	0.170	0.200	0.325
M83519/2-4	.750	0.235	0.255	0.325
M83519/2-5	.750	0.275	0.300	0.325
M83519/2-6	.650	0.075	0.105	0.325
M83519/2-7	.650	0.105	0.145	0.325
M83519/2-8	.650	0.170	0.200	0.325

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS27212

Terminal Board Assembly
Molded-In Stud
Diallylisophthalate Plastic

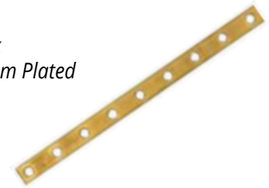


Assembly No.	Thread	Max.# of Studs
MS27212-1-(N)	.138-32	20
MS27212-2-(N)	.1900-32	16
MS27212-3-(N)	.2500-28	8

(N) indicates the number of studs in assembly, used in conjunction with MS18029 Cover Assembly and MS25226 Terminal Connecting Link Bus Bar.

MS25226

Terminal Connecting Link
Bus Bar, Copper, Cadmium Plated



Part #	Stud Size
MS25226-2-(N)	No. 6
MS25226-4-(N)	No. 10
MS25226-6-(N)	1/4

(N) indicates the number of stud holes required to be compatible with studs on MS27212

MS18029

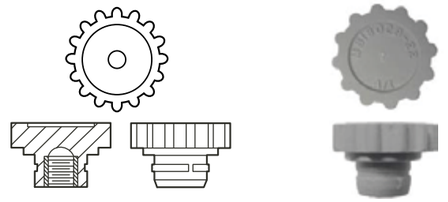
Cover Assembly (Type S)
for MS27212, Plastic Laminate
Available with or without Knobs
(N) indicates number of studs



Assembly No. With Knobs	Stud Size	Assembly No. Without Knobs
MS18029-1S(N)	.138-32	MS18029-11S(N)
MS18029-2S(N)	.1900-32	MS18029-12S(N)
MS18029-3S(N)	.2500-28	MS18029-13S(N)

MS18029

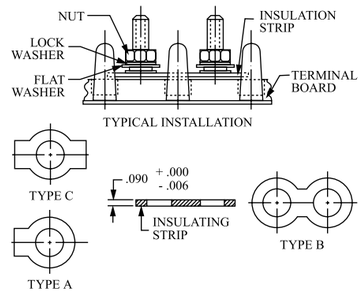
Nut Assembly for MS27212



Part #	Thread
MS18029-21	.138-32
MS18029-22	.1900-32
MS18029-23	.2500-28

MS3373

Insulating Mounting
Nut Strip for MS27212



MS3373	Used on MS27212
A1 B1	-1
A2 B2	-2
A3 B3	-3

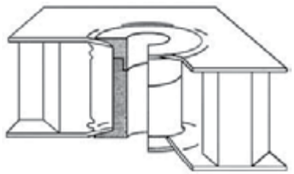
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

How Can We Help? 1-888-760-1066

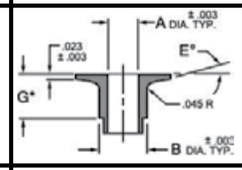
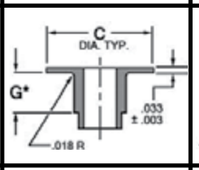
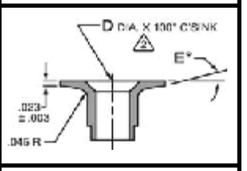
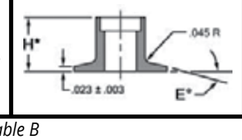
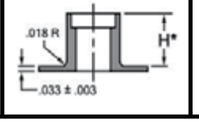
PANEL INSERTS

102 Series - Thru Bolt

Typical Assembly



Series 102, Thru-Bolt Plug & Sleeve assembly.

Head Style	D - Flush	F - Non-Flush	C - Flush, C'sink Hole
Plug			
Sleeve			

** See Table B*

Table A

Size	A Hole Dia	B Body Dia	C Head Dia	D C'Sink Dia	E° Head Angle
8	.169	.278	.500	.332	13°
10	.194	.309	.625	.382	13°

Part Number Selection

Two part numbers-Sleeve & Plug-are required.

Example:

TYE S 1 0 2 F 10 - 08
TYE P 1 0 2 C 10 - 1

- ***Length Dash Number:*** *See Table B*
- ***Size:*** *See Table A*
- ***Head Style:*** **C** = *Flush Head, Countersunk Hole*; **D** = *Flush Head*; **F** = *Non-Flush Head*
- ***Type:*** *Thru-Bolt*
- ***Material:*** **0** = *Aluminum Alloy*
- ***Part Type:*** *P = Plug, S = Sleeve*

Plug and Sleeve Dash Number Selection

Select Sleeve and Plug Dash Number from Table B by determining the thickness closest to the panel being used.

Example:

Requirements: #10 Thru-Bolt, Aluminum Alloy, Non-Flush Head for a .375 overall panel.
From table select: ***-0 Plug = TYEP102F10-0***
-06 Sleeve = TYES102F10-06

Table B	Plug Dash #	-0	-1
Sleeve Dash #	G / H	.085	.116
-04	.165	.250	.281
-06	.290	.375	.406
-08	.415	.500	.531
-10	.540	.625	.656
-12	.665	.750	.781

= Panel Thickness

Young Eng. Part #	Delron Part #	Part Type	Head Style	G Height	Hole Diameter
TYEP102C10-0	P102C10-0	Plug	Flush, C'Sunk Hole	.085	.194
TYEP102D10-0	P102D10-0	Plug	Flush	.085	.194
TYEP102D10-1	P102D10-1	Plug	Flush	.116	.194
TYEP102F10-0	P102F10-0	Plug	Non-Flush	.085	.194
Young Eng. Part #	**Delron Part #**	**Part Type**	**Head Style**	**H Height**	**Hole Diameter**
TYES102D10-04	S102D10-04	Sleeve	Flush	.165	.194
TYES102D10-06	S102D10-06	Sleeve	Flush	.290	.194
TYES102D10-08	S102D10-08	Sleeve	Flush	.415	.194
TYES102D10-10	S102D10-10	Sleeve	Flush	.540	.194
TYES102F10-04	S102F10-04	Sleeve	Non-Flush	.165	.194
TYES102F10-06	S102F10-06	Sleeve	Non-Flush	.290	.194
TYES102F10-08	S102F10-08	Sleeve	Non-Flush	.415	.194

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

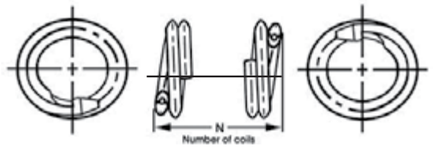
NAS1130

Tangless Insert, Helical Coil
Screw Thread, Free Running, Self-Locking
Type 304 Corrosion Resistant Steel

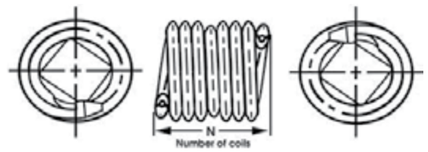


No Letter after the First Dash # designates: Free Running
"L" after the First Dash # designates: Self-Locking
Add a "D" after the Second Dash # to designate: Dry Film Lubricant
Add a "P" after the Second Dash # to designate: Cadmium Plating
No Letter after the Second Dash # designates: No Finish

Insert Color Identification:
- *No Finish, Free Running: None*
- *No Finish, Self-Locking: Red (Dye)*
- *Dry Film Lube, Free Running: Dark Gray*
- *Dry Film Lube, Self-Locking: Dark*



Free Running Insert



Self-Locking Insert

** Note - Length dimensions are for reference only*

Nominal Thread Size	1 - Diameter Nom. Length		1.5 - Diameter Nom. Length		2 - Diameter Nom. Length		2.5 - Diameter Nom. Length		3 - Diameter Nom. Length	
	Length	NAS1130	Length	NAS1130	Length	NAS1130	Length	NAS1130	Length	NAS1130
.086-56	.086	-02-10 -02L10	.129	-02-15 -02L15	.172	-02-20 -02L20	.215	-02-25 ---	.258	-02-30 ---
.112-40	.112	-04-10 -04L10	.168	-04-15 -04L15	.224	-04-20 -04L20	.280	-04-25 ---	.336	-04-30 ---
.138-32	.138	-06-10 -06L10	.207	-06-15 -06L15	.276	-06-20 -06L20	.345	-06-25 ---	.414	-06-30 -06L30
.164-32	.164	-08-10 -08L10	.246	-08-15 -08L15	.328	-08-20 ---	.410	-08-25 -08L25	.492	-08-30 ---
.190-32	.190	-3-10 -3L10	.285	-3-15 -3L15	.380	-3-20 -3L20	.475	-3-25 -3L25	.570	-3-30 -3L30
.250-20	.250	-4-10 -4L10	.375	-4-15 -4L15	.500	-4-20 ---	.625	-4-25 ---	.750	-4-30 ---
.250-28	.250	-4F10 -4FL10	.375	-4F15 -4FL15	.500	-4F20 -4FL20	.625	-4F25 ---	.750	-4F30 -4FL30

NAS1394

Insert, Lightweight Self-Locking & Non Self-Locking, Threaded Metal



"-" Indicates Alloy Steel,
"C" Indicates Corrosion Resistant Steel
Add an "L" after Dash # for Self-Locking

Thread	Thread	Length	NAS1394	NAS1394
.1640-32	.2500-20	.250	C08	C08L
.1900-32	.3125-18	.3125	C3	C3L
.2500-28	.3750-16	.375	C4	C4L
.3125-24	.4375-14	.4375	C5	C5L

NAS1395

Insert, Heavy Duty Self-Locking & Non Self-Locking, Threaded Metal



"-" Indicates Alloy Steel,
"C" Indicates Corrosion Resistant Steel
Add an "L" after Dash # for Self-Locking

Internal Thread	External Thread	Length	NAS1395
.1380-32	.2500-20	.250	C06L
.1640-32	.3125-18	.3125	C08L
.1900-32	.3750-16	.3125	C3L
.2500-28	.4375-14	.375	C4L

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21209

Helicoil Insert
"C" indicates Coarse Thread
"F" indicates Fine Thread
"L" indicates Dry Film Lube
"P" indicates Cadmium Plating



Coarse Thread Size	Length	MS21209	Length	MS21209	Length	MS21209	Length	MS21209
.086-56	.086	C0210	.129	C0215	.172	C0220	.215	C0225
.112-40	.112	C0410	.168	C0415	.224	C0420	.280	C0425
		C0410L		C0415L		C0420L		C0425L
		C0410P		C0415P		C0420P		C0425P
.138-32	.138	C0610	.207	C0615	.276	C0620	.345	C0625
		C0610L		C0615L		C0620L		C0625L
		C0610P		C0615P		C0620P		C0625P
.164-32	.164	C0810	.246	C0815	.328	C0820	.410	C0825
		C0810L		C0815L		C0820L		C0825L
		C0810P		C0815P		C0820P		C0825P
.190-24	.190	C1-10	.285	C1-15	.380	C1-20	.475	C1-25
.250-20	.250	C4-10	.375	C4-15	.500	C4-20	.625	C4-25

Fine Thread Size	Length	MS21209	Length	MS21209	Length	MS21209	Length	MS21209
.138-40	.138	F0610	.207	F0615	.276	F0620	.345	F0625
.164-36	.164	F0810	.246	F0815	.328	F0820	.410	F0825
.190-32	.190	F1-10	.285	F1-15	.380	F1-20	.475	F1-25
		F1-10L		F1-15L		F1-20L		F1-25L
		F1-10P		F1-15P		F1-20P		F1-25P
.250-28	.250	F4-10	.375	F4-15	.500	F4-20	.625	F4-25
		F4-10L		F4-15L		F4-20L		F4-25L
		F4-10P		F4-15P		F4-20P		F4-25P
.3125-24	.312	F5-10	.469	F5-15	.625	F5-20	.781	F5-25
.375-24	.375	F6-10	.562	F6-15	.750	F6-20	.938	F6-25

MS51830

Insert, Mini & Lightweight
Locked In, Key Locked
Corrosion Resistant Steel
Alternate # - NAS1394
"A" in lieu of "-" for Alloy Steel
"L" after Dash # for Internal Thread Lock



Internal Thread	External Thread	Length	Locking Tabs	MS51830
.086 - 56	.1640 - 32	.120	2	-101 -101L
.112 - 40	.1900 - 32	.170	2	-102 -102L
.138 - 32	.2160 - 28	.170	2	-103 -103L
.190 - 32	.3125 - 18	.312	2	-201 -201L
.250 - 28	.3750 - 16	.375	2	-202 -202L
.3125 - 24	.4375 - 14	.437	4	-203 -203L

MS51831

Insert, Heavy Duty
Locked In, Key Locked
Corrosion Resistant Steel
Alternate # - NAS1395
"A" in lieu of "-" for Alloy Steel
"L" after Dash # for Internal Thread Lock



Internal Thread	External Thread	Length	Locking Tabs	MS51831
.1900 - 32	.3750 - 16	.312	2	-201 -201L A201L
.2500 - 28	.4375 - 14	.375	2	-202 -202L
.3125 - 24	.5000 - 13	.437	4	-203L
.3750 - 24	.5625 - 12	.500	4	-204L

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

INSERTS

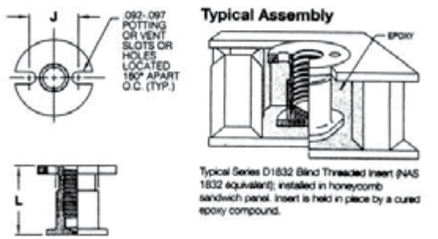
NAS1832 INSERT

Blind Threaded / Sandwich Panel



No letter after Basic Part # indicates Carbon Steel
Add "C" after Basic Part # for Corrosion Resistant
"M" after Second Dash # indicates Dry Film Lubricant

Part #	Thread	Length	J
NAS1832-08-3	.1640-32	.375	.367
NAS1832-08-3M		.375	
NAS1832-08-4		.500	
NAS1832-08-6		.750	
NAS1832-3-3	.1900-32	.375	.367
NAS1832-3-3M		.375	
NAS1832-3-4		.500	
NAS1832-3-5		.625	
NAS1832-3-6		.750	
NAS1832-3-7		.875	
NAS1832-4-4	.2500-28	.500	.467



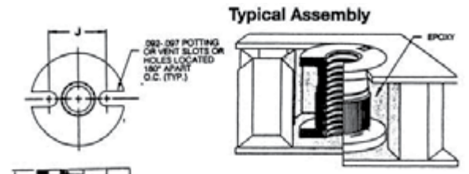
NAS1833 INSERT

Thru Threaded / Sandwich Panel



No Letter after Basic Part # indicates Carbon Steel
Add "A" after Basic Part # for Aluminum
Add "C" after Basic Part # for Corrosion Resistant

Part #	Thread	Length	J
NAS1833-08-250	.1640-32	.250	.367
NAS1833-08-375		.375	
NAS1833-08-500		.500	
NAS1833-3-250	.1900-32	.250	.367
NAS1833-3-300		.300	
NAS1833-3-375		.375	
NAS1833-3-500		.500	
NAS1833-3-750		.750	



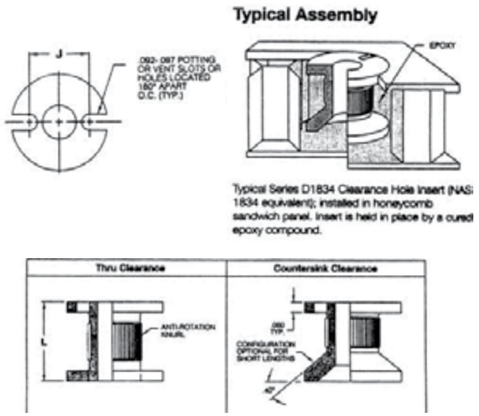
NAS1834 INSERT

Countersunk and Thru Clearance
Hole Sandwich Panel



Suffix "K" after 1st Dash # indicates Countersunk
"A" after Basic Part # indicates Aluminum
"C" after Basic Part # indicates Corrosion Resistant

Part #	Clearance Hole	Length	J
NAS1834-08-250	.168 - .174	.250	.367
NAS1834-08K250		.250	
NAS1834-08K375		.375	
NAS1834-08-500		.500	
NAS1834-08K500		.500	
NAS1834-3-250	.195 - .201	.250	.367
NAS1834-3K250		.250	
NAS1834A3-250		.250	
NAS1834-3-375		.375	
NAS1834-3K375		.375	
NAS1834-3K400		.400	
NAS1834-3-500		.500	
NAS1834-3K500		.500	
NAS1834-3K750		.750	
NAS1834-4-375	.256 - .263	.375	.467
NAS1834-4-500		.500	
NAS1834-4K500		.500	
NAS1834-4-750		.750	
NAS1834-4K750		.750	



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

INSERTS

NAS1835 INSERT

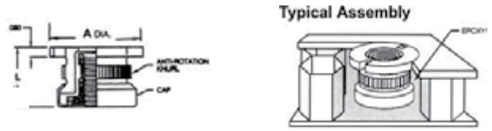
Molded In, Blind Threaded
Floating Sandwich Panel

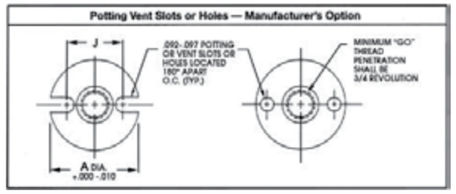


No Letter after Basic Part # indicates Carbon Steel
"A" after Basic Part # indicates Aluminum Alloy Housing
"C" indicates Corrosion Resistant
"M" indicates Solid Film Lubricant

Part #	Thread	A	J	L
NAS1835-08	.1640-32	.685	.500	.37
NAS1835C08				
NAS1835-3M	.1900-32	.685	.500	.43
NAS1835A3				
NAS1835-3				

Typical Assembly





NAS1836 INSERT

Blind Threaded / Lightweight, Sandwich Panel



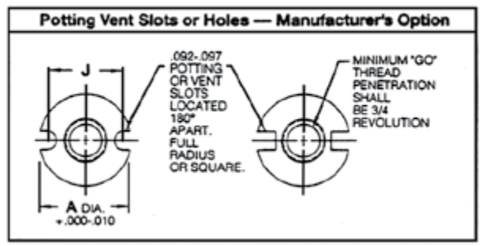
No Letter after Basic Part # indicates Carbon Steel
"A" after Basic Part # indicates Aluminum Alloy Housing
"C" indicates Corrosion Resistant

Part #	Thread	Length
NAS1836-06-07	.1380-32	.219
NAS1836-06-08		.250
NAS1836-06-09		.281
NAS1836-06-11		.343
NAS1836-06-12		.375
NAS1836-06-14		.437
NAS1836-06-15		.469
NAS1836-06-16		.500
NAS1836-08-07	.1640-32	.219
NAS1836-08-08		.250
NAS1836-08-09		.281
NAS1836-08-10		.312
NAS1836-08-11		.343
NAS1836C08-11		.343
NAS1836-08-12		.375
NAS1836-08-13		.406
NAS1836-08-14		.437
NAS1836-08-15		.465
NAS1836-08-16		.500
NAS1836-08-20		.620
NAS1836-3-07	.1900-32	.219
NAS1836-3C07		.219
NAS1836-3-08		.250
NAS1836-3-09		.281
NAS1836-3-10		.312
NAS1836-3-11		.343
NAS1836-3-12		.375
NAS1836C3-12		.375
NAS1836-3-13		.406
NAS1836-3-14		.437
NAS1836-3-16		.500
NAS1836-3-18		.563
NAS1836-3-20		.620

Typical Assembly



Typical Series D1836 Lightweight Threaded Insert (NAS 1836 equivalent); installed in honeycomb sandwich panel. Insert is held in place by a cured epoxy compound.



HOSE CLAMPS



QS200M#S
All Stainless
Slotted Safety Collar

QS200M#H
All Stainless
Slotted Hex Head Screw

Diameter		QS200M#S	QS200M#H
Min	Max	Dash #	Dash #
7/16	25/32	06S	06H
1/2	29/32	08S	08H
9/16	1-1/16	10S	10H
11/16	1-1/4	12S	12H
13/16	1-1/2	16S	16H
15/16	1-3/4	20S	20H
1-1/16	2	24S	24H
1-5/16	2-1/4	28S	28H
1-9/16	2-1/2	32S	32H
1-13/16	2-3/4	36S	36H
2-1/16	3	40S	40H
2-5/16	3-1/4	44S	44H
2-9/16	3-1/2	48S	48H
2-13/16	3-3/4	52S	52H
3-1/16	4	56S	56H
3-5/16	4-1/4	60S	60H
3-9/16	4-1/2	64S	64H
4-1/16	5	72S	72H
4-5/16	5-1/2	80S	80H
5-1/8	6	88S	88H
5-9/16	6-1/2	96S	96H

HOSE CLAMPS



QS100M#H
Carbon Steel
Slotted Hex Head Screw

Diameter		QS100M#H
Min	Max	Dash #
7/16	25/32	06H
1/2	29/32	08H
9/16	1-1/16	10H
11/16	1-1/4	12H
13/16	1-1/2	16H
15/16	1-3/4	20H
1-1/16	2	24H
1-5/16	2-1/4	28H
1-9/16	2-1/2	32H
1-13/16	2-3/4	36H
2-1/16	3	40H
2-5/16	3-1/4	44H
2-9/16	3-1/2	48H
2-13/16	3-3/4	52H
3-1/16	4	56H
3-5/16	4-1/4	60H
3-9/16	4-1/2	64H
4-1/16	5	72H
4-5/16	5-1/2	80H
5-1/8	6	88H
5-9/16	6-1/2	96H

HOSE CLAMPS
Miniature



Diameter		Heavy Duty	Stainless
Min	Max	Part #	Part #
7/32	5/8	6504	6604
7/16	25/32	6506	6606
1/2	29/32	6508	6608
9/16	1-1/16	6510	6610

AN737 HOSE CLAMPS



Diameter		AN737TW
Min	Max	
7/16	11/16	22
1/2	3/4	24
9/16	13/16	26
11/16	15/16	30
13/16	1-1/16	34
15/16	1-3/16	38
61/64	1-3/8	44
1	1-7/16	46
1-5/64	1-1/2	48
1-21/64	1-3/4	56
1-3/8	1-13/16	58
1-5/8	2-1/16	66
1-7/8	2-5/16	74
2-1/8	2-9/16	82
2-13/32	2-27/32	91
2-5/8	3-1/16	98
2-29/32	3-11/32	107
3-1/8	3-9/16	114

MS35842



Hose Clamp
Low Pressure

Hose Diameter Range		MS35842
Min	Max	
7/16	25/32	-10
11/16	1-1/4	-11
1-1/16	2	-12
1-13/16	2-3/4	-13
2-9/16	3-1/2	-14
3-5/16	4-1/4	-15
4-1/8	7	-16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21919WDG CLAMP

Aluminum Band,
Chloroprene Cushion (212^{0}F)



To Fit Diameter	MS21919WDG	To Fit Diameter	MS21919WDG
1/8	2	1-5/16	21
3/16	3	1-3/8	22
1/4	4	1-7/16	23
5/16	5	1-1/2	24
3/8	6	1-9/16	25
7/16	7	1-5/8	26
1/2	8	1-11/16	27
9/16	9	1-3/4	28
5/8	10	1-13/16	29
11/16	11	1-7/8	30
3/4	12	2	32
13/16	13	2-1/8	34
7/8	14	2-3/16	35
15/16	15	2-1/4	36
1	16	2-3/8	38
1-1/16	17	2-1/2	40
1-1/8	18	2-21/32	42
1-3/16	19	2-3/4	44
1-1/4	20	3	48

MS21919WH

Steel Band,
White Silicone Cushion
(400^{0}F)



Dia.	MS21919WH	Dia.	MS21919WH
1/8	2	11/16	11
3/16	3	3/4	12
1/4	4	13/16	13
5/16	5	7/8	14
3/8	6	15/16	15
7/16	7	1	16
1/2	8	1-11/16	17
9/16	9	1-1/8	18
5/8	10	1-1/4	20

MS21919WCH

Corrosion Resistant Band,
White Silicone Cushion (400^{0}F)



Dia.	MS21919WCH	Dia.	MS21919WCH
1/8	2	3/4	12
3/16	3	13/16	13
1/4	4	7/8	14
5/16	5	15/16	15
3/8	6	1	16
7/16	7	1-1/16	17
1/2	8	1-1/8	18
9/16	9	1-1/4	20
5/8	10	1-3/8	22
11/16	11	1-1/2	24

MS21919WCJ

Corrosion Resistant Band,
Fluorosilicone Cushion
(450^{0}F)



To Fit Dia.	MS21919WCJ
1/8	2
3/16	3
1/4	4
5/16	5
3/8	6
7/16	7
1/2	8
9/16	9
5/8	10
11/16	11
3/4	12

MS21919WDF

Aluminum Band,
Nitrile Cushion
(212^{0}F)



To Fit Dia.	MS21919WDF
1/8	2
3/16	3
1/4	4
5/16	5
3/8	6
7/16	7
1/2	8
5/8	10
3/4	12

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN742D

Clamp, Plain, Steel,
"D" after Base # is Aluminum



To Fit Diameter	AN742	AN742D
1/8	2	2
3/16	3	3
1/4	4	4
5/16	5	5
3/8	6	6
7/16	7	7
1/2	8	8
9/16	9	9
5/8	10	10
11/16	11	11
3/4	12	12

M85052/2

Clamp, Loop
Fluid Resistant, Tube



To Fit Diameter	M85052/2-
1/8	2
3/16	3
1/4	4
5/16	5
3/8	6
7/16	7
1/2	8
9/16	9
5/8	10
11/16	11
3/4	12

AN735D

Clamp Loop
Type Bonding
Aluminum

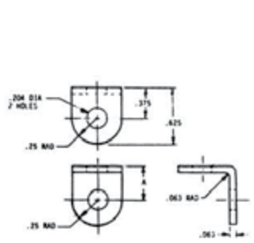


Fits Dia.	AN735D	Fits Dia.	AN735D
.125	2	1.25	18
.1875	3	1.88	19
.250	4	1.25	20
.313	5	1.35	22
.375	6	1.50	24
.4375	7	1.625	26
.500	8	1.688	27
.625	10	1.750	28
.688	11	1.875	30
.750	12	2.000	32
1.00	16	2.500	40

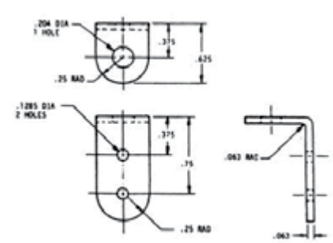
AN743

Bracket
Support Clamp





AN743-12



AN743-13

MA12-02588

Clamp Keeper

Spring steel, notched on both ends. Allows mechanic to thread a nut onto the screw much easier than without this important tool.





MS25281

Wire Loop Clamp,
Plastic



Dia.	MS25281	Dia.	MS25281
1/8	**R2**	5/8	**R10**
3/16	**R3**	11/16	**R11**
1/4	**R4**	3/4	**R12**
5/16	**R5**	13/16	**R13**
3/8	**R6**	7/8	**R14**
7/16	**R7**	15/16	**R15**
1/2	**R8**	1	**R16**
9/16	**R9**	1-1/8	**R18**

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NYLON FITTINGS

Imperial Eastman Nylo-Seal Flareless Tube Fittings. No wrenches, flaring tools, benders or other tools are used for installation. The nut revolves around the sleeves as it is tightened, prevented twisting and weakening of the plastic tubing. For use with Poly-Flow tubing.

Part No.	Description
259N04	Insert
261N04	Nut/Sleeve
262N04	Union
264N04	Union Tee
265N04	Union Elbow
266N04x02	Female Connector
268N042x02	Male Connector
269N04x02	Male Elbow
271N04x02	Male Run Tee
272N04x02	Male Branch Tee
282N04	Bulkhead Union


259N04


261N04


262N04


264N04


265N04


266N04x02


268N04x02


269N04x02


271N04x02


272N04x02


282N04

BRASS FITTINGS

Imperial Eastman Brass Flareless Tube Fittings. The nut revolves around the sleeve as it is tightened, preventing twisting and weakening of the plastic tubing. For use with Poly-Flow tubing.

Part No.	Description
261P04	Nut/Sleeve
262P04	Union
264P04	Union Tee
266P04X02	Female Connector
268P04X02	Male Connector
269P04X02	Male Elbow
272P04X02	Male Branch Tee


261P04


262P04


264P04


266P04x02


268P04x02


269P04x02


272P04x02

POLY-FLOW TUBING

Imperial Eastman Poly-Flo Tubing. No wrenches, flaring tools, benders or other tools are used for installation. To be used with Imperial Eastman Nylon and Brass Fittings.

Part No.	Description
44PN	Clear Poly-Flo Tubing
44PB	Blue Poly-Flo Tubing
44PGN	Green Poly-Flo Tubing
44PO	Orange Poly-Flo Tubing



POLY-FLOW TUBE CUTTER

The "Snip," plastic tube and hose shear is a compact tool designed to evenly cut Poly-Flo tubing. Shear is spring loaded with a replaceable hardened steel blade.

Part No.	Description
307-FP	Poly-Flo Tube Cutter



NYLON INSERT FITTINGS

Used with 1/4" hose or tubing.

Part No.	Description
0716-153	Tee Connector
0711-153	Elbow Connector
0701-153	Inline Connector
0716-015	Tee
0711-015	Elbow
0706-015	Inline


0716-153


0711-153


0701-153


0706-015


0716-015


0711-015

NORPRENE BLACK TUBING

0023-071

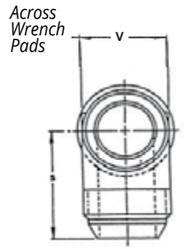


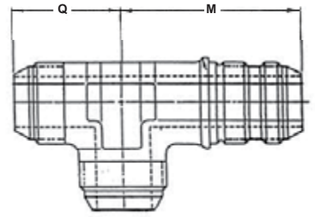
Norprene termoplastic elastomer tubing is a rubber-like black tubing that will not weaken or crack, even after years of heat or ozone exposure. For use with insert type fittings.

AN804-TEE

37° Flared Tube, Bulkhead
Tee / Bulkhead on Run
AN804D# (Aluminum)
AN804-# (Steel)
AN804J# (Corrosion Resistant)





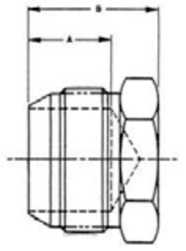


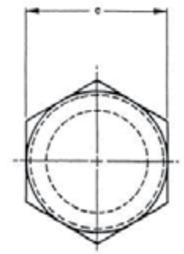
Dash No. AN804	Tube O.D.	Thread Size (Ref.)	M -.047	Q -.047	S -.047	V
2	.125	.312-24	1.406	.766	.828	.312
3	.188	.375-24	1.437	.828	.891	.375
4	.250	.437-20	1.578	.891	.953	.437
5	.312	.500-20	1.609	.953	.1.016	.500
6	.375	.562-18	1.797	1.062	1.078	.562
8	.500	.750-16	2.094	1.250	1.344	.750
10	.625	.875-14	2.375	1.453	1.547	.875
12	.750	1.062-12	2.656	1.656	1.766	1.602

AN806-PRESSURE PLUG

37° Flared Tube
AN806D# (Aluminum)
AN806-# (Steel)
AN806J# (Corrosion Resistant)







Dash No. AN806	Tube O.D.	Thread Size (Ref.)	A	B	C
2	1/8	5/16 - 24	15/32	41/64	.438
3	3/16	3/8 - 24		43/64	
4	1/4	7/16 - 20	17/32	47/64	
5	5/16	1/2 - 20		49/64	.500
6	3/8	9/16 - 18	9/16	13/16	.563
8	1/2	3/4 - 16	5/8	15/16	.750
10	5/8	7/8 - 14	49/64	1-7/64	.875
12	3/4	1-1/16 - 12	13/16	1-13/64	1.125
16	1	1-5/16 - 12		1-9/32	1.375

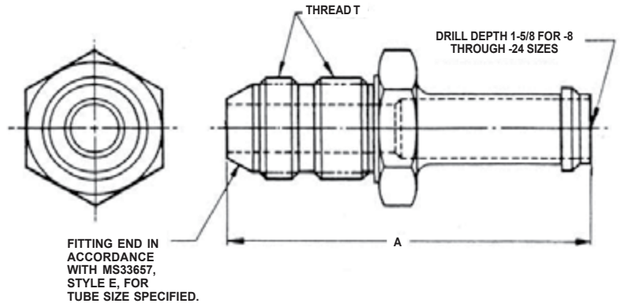
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN807-ADAPTER

Straight, Tube to Hose
AN807-#D (Aluminum)
AN807-# (Copper Alloy)
AN807-#J (Corrosion Resistant)

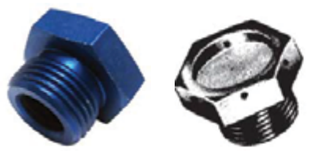


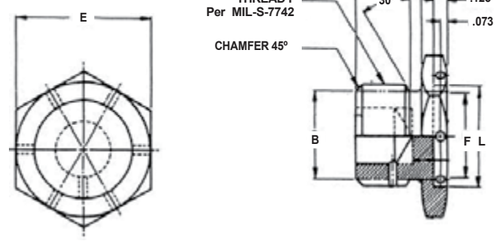


Dash No. AN807	Tube O.D. and Hose I.D.	Thread Size (Ref.)	A
4	1/4	7/16-20	2-13/16
6	3/8	9/16-18	2-61/64
8	1/2	3/4-16	3-7/64
10	5/8	7/8-14	3-17/64
12	3/4	1-1/16-12	3-31/64
16	1	1-5/16-12	3-31/64

AN814-BLEEDER PLUG

Screw Thread
AN814-#D (Aluminum)
AN814-# (Steel)
AN814-#J (Corrosion Resistant)
Add an "L" at end of Part # for Lockwire Holes





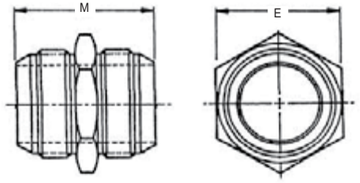
Dash No. AN814	Tube O.D.	Thread Size (Ref.)	B Dia.	D	E		F Dia. +.002 -.003	K	L
2	1/8	5/16-24	7/32	35/64	.563	+.004	.250	5/16	5/16
3	3/16	3/8-24	9/32	9/16	.625		.313	21/64	3/8
4	1/4	7/16-20	11/32	5/8	.688		.364	3/8	7/16
5	5/16	1/2-20	13/32		.750		.427		1/2
6	3/8	9/16-18	15/32	23/32	.813		.482	27/64	9/16
8	1/2	3/4-16	5/8	25/32	1.000		.660	15/32	3/4
10	5/8	7/8-14	3/4		1.125	+.005	.773	17/32	7/8
12	3/4	1- 1/16-12	15/16	1	1.375		.945	19/32	1-1/8
16	1	1- 5/16-12	1-3/16		1.625	+.016	1.195		1-3/8
20	1-1/4	1- 5/8-12	1-1/2		1.875		1.507		1-5/8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN815-UNION

37° Flare, Male to Male
AN815-#D (Aluminum)
AN815-# (Steel)
AN815-#J (Corrosion Resistant)



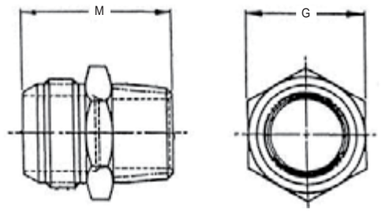


Dash No. AN815	Tube O.D.	Thread Size (Ref.)	E (Ref.)	M
2	1/8	5/16-24	.563	1-7/32
3	3/16	3/8-24	.625	
4	1/4	7/16-20	.688	1-1/4
5	5/16	1/2-20	.750	
6	3/8	9/16-18	.813	1-3/8
8	1/2	3/4-16	1.000	1-9/16
10	5/8	7/8-14	1.125	1-53/64
12	3/4	1 1/16-12	1.375	2-7/64
16	1	1 5/16-12	1.625	2-3/16

AN816-ADAPTER

Straight, Pipe to 37° Flared
AN816-#D (Aluminum)
AN816-# (Steel)
AN816-#J (Corrosion Resistant)



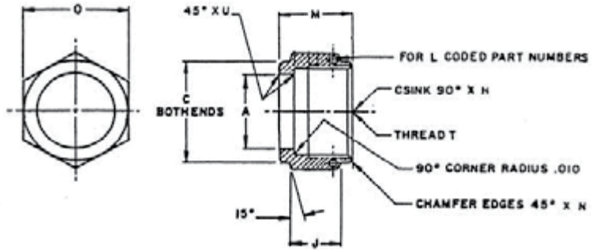


Dash No. AN816	Tube O.D.	THD P AMPT +016	Thread T (Ref.)	G		M +016
2	1/8	.125	.3125-24	.438	+.003 -.004	1.016
3	3/16		.3750-24			1.047
4	1/4		.4375-20	.500		1.109
4-4		.250		.563	+.004	1.375
5	5/16	.125	.5000-20	.562		1.141
5-4		.250		.563		1.375
6-2	3/8	.125	.5625-18	.625		1.187
6		.250				1.375
6-6		.375		.750		1.406
6-8		.500		.875		1.625
7	1/2	.250	.7500-16	.813		1.500
8		.375				
10	5/8	.500	.8750-14	.938		1.828
10-12		.750		1.125	+.005	1.844
12-8	3/4	.500	1.0625-12			1.953
12		.750				
12-16		1.000		1.375		2.187
16-12	1	.750	1.3125-12			2.031
16		1.000				2.219

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN818-NUT



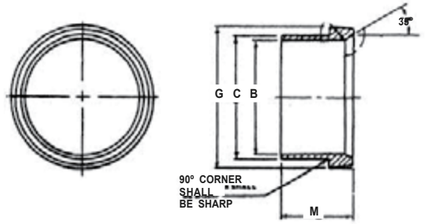


Flared Tube Nut
AN818-#D (Aluminum)
AN818-# (Steel)
AN818-#J (Corrosion Resistant)

Dash No. AN818	Tube O.D.	Thread T MIL-S-8879	A Dia. +.003	C Dia. +.000	J	M		O	
2	.125	.3125-24	.180	.375	.312	.542	+.005	.375	+.003 -.004
3	.188	.3750-24	.242	.437	.375	.604		.438	
4	.250	.4375-20	.305	.562	.400	.620		.563	
5	.312	.5000-20	.374	.625	.484	.683		.625	
6	.375	.5625-18	.440	.687	.500	.724	+.010	.688	
8	.500	.7500-16	.570	.875	.578	.849		.875	
10	.625	.8750-14	.698	1.000	.688	.974		1.000	
12	.750	1.0625-12	.834	1.250	.750	1.021		1.250	
16	1.000	1.3125-12	1.089	1.500	.766	1.131		1.500	

MS20819-SLEEVE





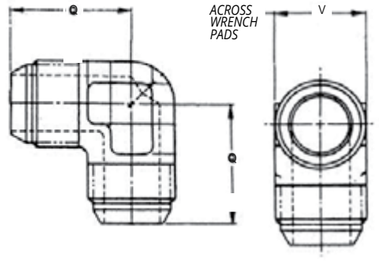
Flared Tube Fitting
MS20819-#D (Aluminum)
MS20819-# (Steel)
MS20819-#J (Corrosion Resistant)

Dash No. MS20819	Tube O.D.	B Dia. +.003 -.000	C Dia. +.000 -.010	G Dia. +.000 -.010	M +.016
2	1/8	.130	.172	.267	.344
3	3/16	.193	.234	.329	.406
4	1/4	.255	.297	.383	
5	5/16	.318	.366	.445	.438
6	3/8	.380	.432	.502	.500
8	1/2	.505	.562	.682	.562
10	5/8	.631	.690	.797	.656
12	3/4	.756	.826	.972	.688
16	1	1.006	1.081	1.222	.781

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN821 ELBOW-90°



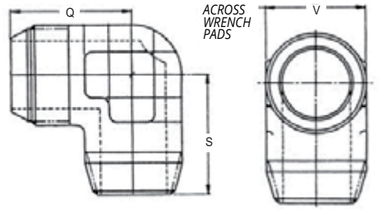


37° Flared Tube
AN821-#D (Aluminum)
AN821-# (Steel)
AN821-#J (Corrosion Resistant)

Dash No. AN821	Tube O.D.	Thread T	Q	V
2	1/8	5/16-24	49/64	5/16
3	3/16	3/8-24	53/64	3/8
4	1/4	7/16-20	57/64	7/16
5	5/16	1/4-20	61/64	1/2
6	3/8	9/16-18	1-1/16	9/16
8	1/2	3/4-16	1-1/4	3/4
10	5/8	7/8-14	1-29/64	7/8
12	3/4	1-1/16-12	1-21/32	1-1/16

MS20822 ELBOW-90°





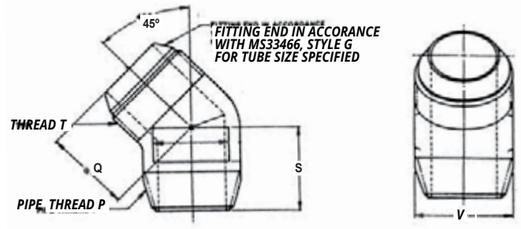
Pipe to 37° Flared Tube
MS20822-#D (Aluminum)
MS20822-# (Steel)
MS20822-#J (Corrosion Resistant)

Dash No. MS20822	Thread T (REF)	Tube O.D.	Pipe Thread End THD P ANPT	Q +.047 -.000	S +.047 -.000	V
2	.312-24	1/8	1/8	.766	.719	.312
3	.375-24	3/16		.828		.375
4	.437-20	1/4		.891	.781	.438
4-4			1/4	1.031	1.062	.562
5	.500-20	5/16	1/8	.953	.781	.500
5-4			1/4	1.031	1.062	.562
6-2	.562-18	3/8	1/8		.875	
6			1/4	1.062	1.094	
6-6			3/8	1.188	1.188	.750
6-8			1/2	1.312	1.438	.875
8	.750-16	1/2	3/8	1.250	1.219	.750
10	.875-14	5/8	1/2	1.453	1.469	.875
10-12			3/4	1.625	1.562	1.062
12-8	1.062-12	3/4	1/2			
12			3/4	1.656	1.594	
12-16			1	1.781	1.938	1.312
16-12	1.312-12	1	3/4	1.812	1.719	
16			1		1.969	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20823 ELBOW - 45°



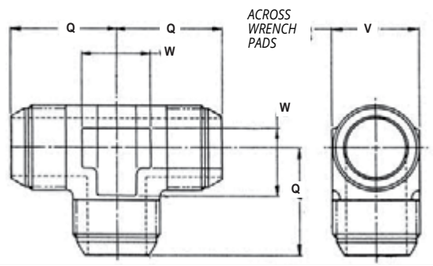


Pipe to 37° Flared Tube
MS20823-#D (Aluminum)
MS20823-# (Steel)
MS20823-#J (Corrosion Resistant)

Dash No. MS20823	Thread T (REF)	Tube O.D.	Pipe Thread End		Q +.047 -.000	S	V
			THD P ANPT	MS33677 STYLE			
2	5/16-24	1/8	1/8	B	.641	.500	.312
3	3/8-24	3/16					.375
4	7/16-20	1/4		A	.703	.625	.438
5	1/2-20	5/16			.750		.500
6	9/16-18	3/8	1/4		.812	.844	.562
8	3/4-16	1/2	3/8		.969	.938	.750
10	7/8-14	5/8	1/2		1.094	1.156	.875
12	1-1/16-12	3/4	3/4	B	1.266	1.188	1.062
16-12	1-5/16-12	1		A	1.453	1.250	1.312
16			1	B		1.469	

AN824 TEE





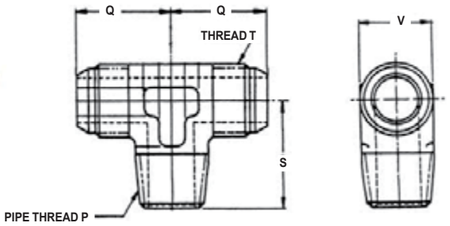
37° Flared Tube
AN824-#D (Aluminum)
AN824-# (Steel)
AN824-#J (Corrosion Resistant)

Dash No. AN824	Tube O.D.	Thread T (REF)	Q +3/64 -0	W Approximate	V Approximate
2	1/8	5/16-24	47/64	5/16	5/16
3	3/16	3/8-24	51/64	3/8	3/8
4	1/4	7/16-20	55/64		7/16
5	5/16	1/2-20	59/64	15/32	1/2
6	3/8	9/16-18	1-1/32	1/2	9/16
8	1/2	3/4-16	1-7/32	11/16	3/4
10	5/8	7/8-14	1-27/64	25/32	7/8
12	3/4	1-1/16-12	1-5/8	29/32	1-1/16
16	1	1/5-16-12	1-25/32	1-3/32	1-5/16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20825-TEE



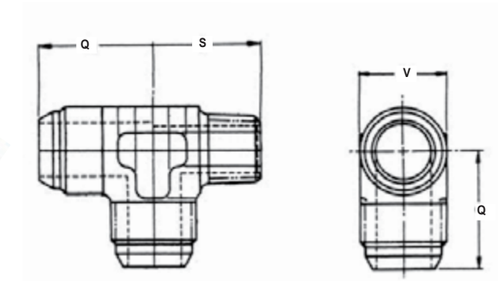


Pipe to Tube
Pipe Thread on Side
MS20825-#D (Aluminum)
MS20825-# (Steel)
MS20825-#J (Corrosion Resistant)

Dash No. MS20825	Thread T (REF)	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			THD P ANPT			
2	5/16-24	1/8	1/8	.734	.688	.312
3	3/8-24	3/16		.797		.375
4	7/16-20	1/4		.859	.750	.438
5	1/2-20	5/16		.922		.500
6	9/16-18	3/8	1/4	1.031	1.062	.562
8	3/4-16	1/2	3/8	1.219	1.188	.750
10	7/8-14	5/8	1/2	1.422	1.438	.875
12	1-1/16-12	3/4	3/4	1.652	1.562	1.062

MS20826-TEE





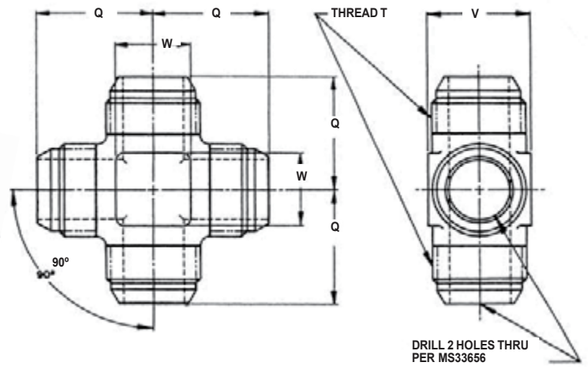
Pipe to Tube
Pipe Thread on Run
MS20826-#D (Aluminum)
MS20826-# (Steel)
MS20826-#J (Corrosion Resistant)

Dash No. MS20826	Thread T (REF)	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			THD P ANPT			
2	5/16-24	1/8	1/8	.734	.688	.312
3	3/8-24	3/16		.797		.375
4	7/16-20	1/4		.859	.750	.438
5	1/2-20	5/16		.922		.500
6	9/16-18	3/8	1/4	1.031	1.062	.562
8	3/4-16	1/2	3/8	1.219	1.188	.750
10	7/8-14	5/8	1/2	1.422	1.438	.875
12	1-1/16-12	3/4	3/4	1.625	1.562	1.062
16-12	1-5/16-12	1		1.781	1.688	1.312
16			1		1.938	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN827-CROSS



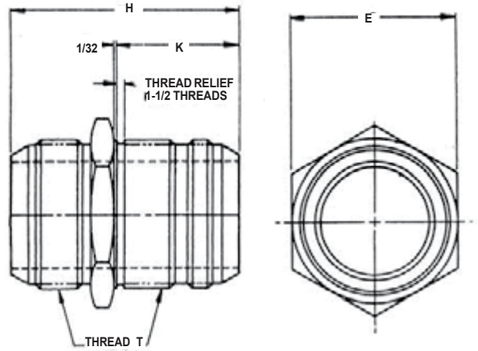


Flared Tube
AN827-#D (Aluminum)
AN827-# (Steel)
AN827-#J (Corrosion Resistant)

Dash No. AN827	Tube O.D.	Thread T (REF)	Q +3/64 -0	V	W
4	1/4	7/16-20	55/64	7/16	3/8
5	5/16	1/2-20	59/64	1/2	15/32
6	3/8	9/16-18	1-1/32	9/16	1/2
8	1/2	3/4-16	1-7/32	3/4	11/16

AN832-UNION





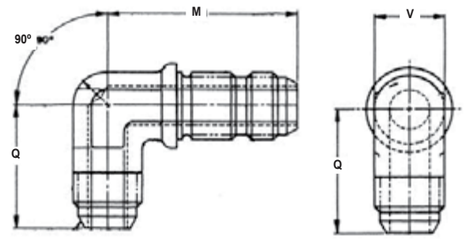
Flared Tube - 3/8 Bulkhead
& Universal
AN832-#D (Aluminum)
AN832-# (Steel)
AN832-#J (Corrosion Resistant)

Dash No. AN832	Tube O.D.	Thread T (REF)	E (REF)	H	K
2	1/8	5/16-24	.563	1-53/64	1-7/64
3	3/16	3/8-24	.625	1-55/64	
4	1/4	7/16-20	.688	2-3/64	1-13/64
5	5/16	1/2-20	.750		
6	3/8	9/16-18	.813	2-7/32	1-9/32
8	1/2	3/4-16	1.000	2-29/64	1-7/16
10	5/8	7/8-14	1.125	2-23/32	1-37/64
12	3/4	1-1/16-12	1.375	3-1/32	1-3/4
16	1	1/5-16-12	1.625	3-5/64	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN833-ELBOW



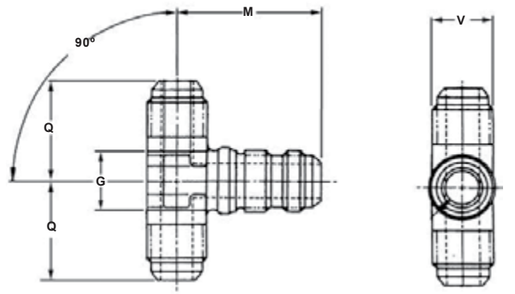


Flared Tube and
Bulkhead Universal, 90°
AN833-#D (Aluminum)
AN833-# (Steel)
AN833-#J (Corrosion Resistant)

Dash No. AN833	Tube O.D.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16-24	1-13/32	53/64	5/16
3	3/16	3/8-24	1-7/16	57/64	3/8
4	1/4	7/16-20	1-37/64	61/64	7/16
5	5/16	1/2-20	1-39/64	1-1/64	1/2
6	3/8	9/16-18	1-51/64	1-5/64	9/16
8	1/2	3/4-16	2-3/32	1-11/32	3/4
10	5/8	7/8-14	2-3/8	1-35/64	7/8
12	3/4	1-1/16-12	2-21/32	1-49/64	1-1/16

AN834-TEE





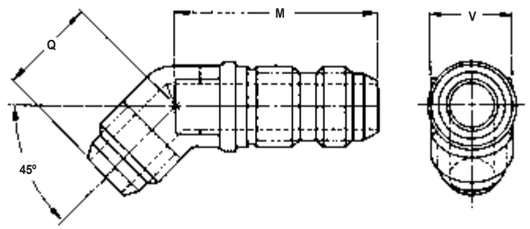
Bulkhead and
Universal Flared Tube
AN834-#D (Aluminum)
AN834-# (Steel)
AN834-#J (Corrosion Resistant)

Dash No. AN834	Tube O.D.	G Dia.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16	5/16-24	1-13/32	53/64	5/16
3	3/16	3/8	3/8-24	1-7/16	57/64	3/8
4	1/4	7/16	7/16-20	1-37/64	61/64	7/16
5	5/16	1/2	1/2-20	1-39/64	1-1/64	1/2
6	3/8	9/16	9/16-18	1-51/64	1-5/64	9/16
8	1/2	3/4	3/4-16	2-3/32	1-11/32	3/4
10	5/8	7/8	7/8-14	2-3/8	1-35/64	7/8
12	3/4	1-1/16	1-1/16-12	2-21/32	1-49/64	1-1/16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN837-ELBOW



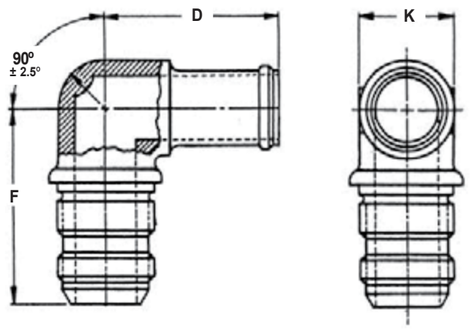


Flared Tube
Universal, 45°
AN837-#D (Aluminum)
AN837-# (Steel)
AN837-#J (Corrosion Resistant)

Dash No. AN837	Tube O.D.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16 - 24	1 - 3/8	41/64	5/16
3	3/16	3/8 - 24			3/8
4	1/4	7/16 - 20	1 - 17/32	45/64	7/16
5	5/16	1/2 - 20		3/4	1/2
6	3/8	9/16 - 18	1 - 43/64	13/16	9/16
8	1/2	3/4 - 16	1 - 15/16	31/32	3/4
10	5/8	7/8 - 14	2 - 11/64	1-3/32	7/8

AN838-ELBOW





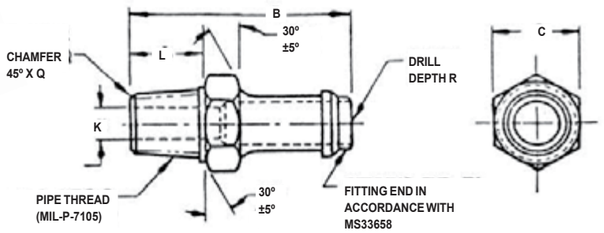
Flared Tube to Hose, 90°
AN838-#D (Aluminum)
AN838-# (Copper Alloy)
AN838-#J (Corrosion Resistant)

Dash No. AN838	Hose I.D.	Tube O.D.	Thread T (REF)	D +3/64 -0	F +3/64 -0	K
4	1/4	1/4	7/16-20	1-27/32	1-9/16	7/16
6	3/8	3/8	9/16-18	1-15/16	1-47/64	9/16
8	1/2	1/2	3/4-16	2-1/32	2-1/32	3/4
10	5/8	5/8	7/8-14	2-3/32	2-9/32	7/8
12	3/4	3/4	1-1/16-12	2-1/4	2-9/16	1-1/16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN840-ADAPTER



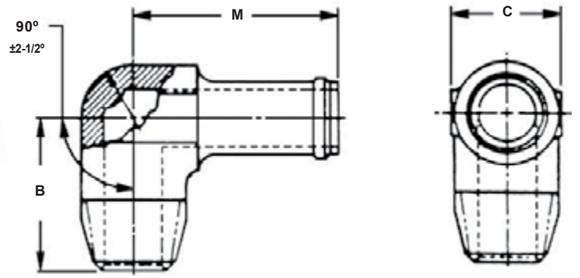


Straight,
Pipe to Hose
AN840-#D (Aluminum)
AN840-# (Copper Alloy)
AN840-#S (Steel)

Dash No. AN840	Hose I.D.	Pipe THD ANPT	B +1/32 -0	C	L
4	1/4	1/8	2-5/64	.437	25/64
6	3/8	1/4	2-11/32	.625	19/32
8	1/2	3/8	2-3/8	.750	19/32
10	5/8	1/2	2-37/64	.937	49/64
11	3/4	3/8	2-13/32	1.000	19/32
12	3/4	3/4	2-5/8	1.125	25/32
16	1	3/4	2-5/8	1.250	25/32

AN842-ELBOW





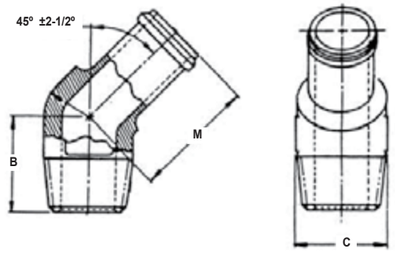
Pipe to Hose, 90°
AN842-#D (Aluminum)
AN842-# (Copper Alloy)
AN842-#S (Steel)

Dash No. AN842	Hose I.D.	Pipe THD ANPT	B +1/32 -0	C	M +3/64 -0
4	1/4	1/8	25/32	7/16	1-25/32
6	3/8	1/4	1-3/32	5/8	1-29/32
8	1/2	3/8	1-3/16	3/4	1-63/64
10	5/8	1/2	1-13/64	15/16	2-11/64
12	3/4	3/4	1-19/32	1-1/8	2-13/64
16	1				

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN844-ELBOW



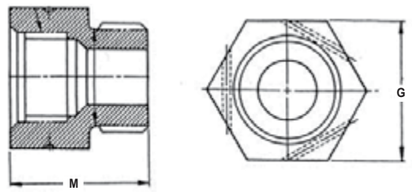


Pipe to Hose, 45°
AN844-#D (Aluminum)
AN844-# (Copper Alloy)
AN844-#S (Steel)

Dash No. AN844	Hose I.D.	Pipe THD NPT	B +3/64 -0	C	M +3/64 -0
4	1/4	1/8	5/8	7/16	1-5/8
6	3/8	1/4	7/8	5/8	1-11/16
8	1/2	3/8	59/64	3/4	1-23/32
10	5/8	1/2	1-5/32	15/16	1-25/32
12	3/4	3/4	1-13/64	1-1/8	1-13/64
16	1				

AN893-BUSHING





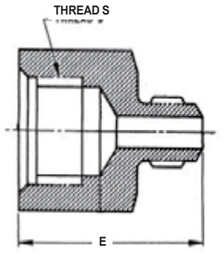
Female Straight to Male Straight
Screw Thread Reducer
AN893-#D (Aluminum)
AN893-# (Steel)
AN893-#J (Corrosion Resistant)

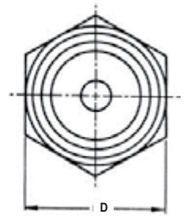
Dash No. AN893	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread S (REF)	Tube O.D.	Thread T (REF)	G	M
1	1/4	.4375-20	5/16	1/2-20	.750	1-7/64
2			3/8	9/16-18	.813	
3			1/2	3/4-16	1.000	25/32
4			3/4	1-1/16-12	1.375	31/32
5			1	1-5/16-12	1.625	
6			1-1/4	1-5/8-12	1.875	
7	5/16	.5000-20	3/8	9/16-18	.813	1-7/64
8			1/2	3/4-16	1.000	
9			3/4	1-1/16-12	1.375	31/32
10			1	1-5/16-12	1.625	
11			1-1/4	1-5/8-12	1.875	
12	3/8	.5625-18	1/2	3/4-16	1.000	1-11/64
121			5/8	7/8-14	1.125	1-7/32
13			3/4	1-1/16-12	1.375	31/32
14			1	1-5/16-12	1.625	
15			1-1/4	1-5/8-12	1.875	
151	1/2	.7500-16	5/8	7/8-14	1.125	1-3/8
16			3/4	1-1/16-12	1.375	1-11/32

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN894-BUSHING





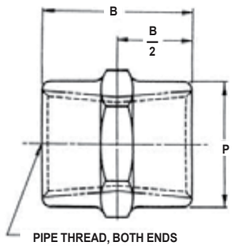


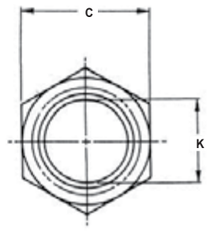
Female Straight to Male 37°
Screw Thread Expander
AN894D-# (Aluminum)
AN894-# (Steel)
AN894J-# (Corrosion Resistant)

Dash No. AN894	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread S (REF)	Tube O.D.	Thread T (REF)	D	E
3-2	3/16	.3750-24	1/8	.3125-24	.625	1-3/16
4-2	1/4	.4375-20			.688	1-19/64
4-3			3/16	.375-24		
5-4	5/16	.5000-20	1/4	.4375-20	.750	1-1/2
6-4	3/8	.5625-18			.813	1-25/64
6-5			5/16	.500-20		1-3/8
8-4	1/2	.7500-16	1/4	.4375-20	1.000	1-37/64
8-5			5/16	.500-20		1-35/64
8-6			3/8	.5625-18		
10-4	5/8	.8750-14	1/4	.4375-20	1.125	1-43/64
10-5			5/16	.500-20		1-21/32
10-6			3/8	.5625-18		1-41/64
10-8			1/2	.750-16		1-3/4

AN910-COUPLING







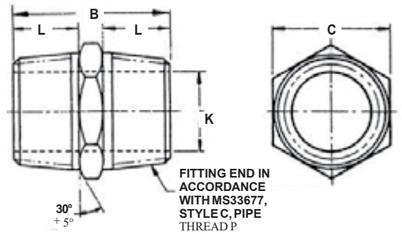
Female to Female Pipe Thread
AN910-#D (Aluminum)
AN910-# (Copper Alloy)

Dash No. AN910	Pipe Thread	B +1/32 -0	C	K Dia.	P Dia.
1	1/8	27/32	.625	.327	37/64
2	1/4	1-1/8	.813	.423	25/32
3	3/8	1-7/32	.938	.557	59/64
4	1/2	1-19/32	1.188	.688	1-5/32
6	3/4	1-5/8	1.375	.897	1-23/64
8	1	1-15/16	1.750	1.128	1-11/16
10	1-1/4		2.125	1.471	2-3/32

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN911-NIPPLE

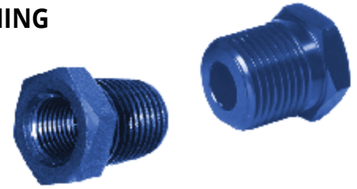


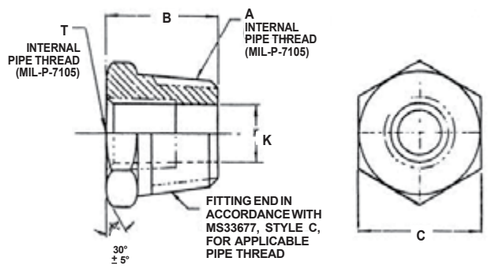


Pipe
AN911-#D (Aluminum)
AN911-# (Copper Alloy)
AN911-#J (Corrosion Resistant)

Dash No. AN911	Thread P ANPT	B ±1/32	C		K Dia.		L
1	1/8	31/32	.438	+.003 -.004	.203	+.003 -.004	25/64
2	1/4	1-7/16	.625	+.004	.279	+.004	25/64
3	3/8	1-15/32	.750		.418	+.003 -.004	
4	1/2	1-27/32	.938		.508	+.004	49/64
6	3/4	1-29/32	1.125	+.005	.727	+.003 -.004	25/32
8	1	2-5/16	1.375		.914	+.004	31/32
10	1-1/4	2-11/32	1.750	+.016	1.256	+.004	63/64

AN912-BUSHING





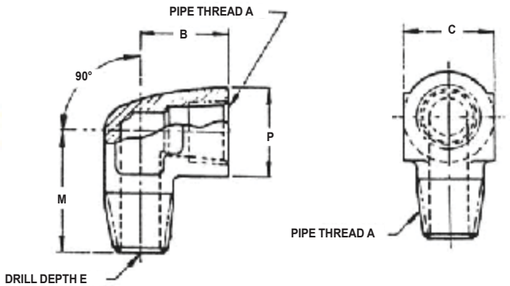
Pipe
AN912-#D (Aluminum)
AN912-# (Copper Alloy)
AN912-#J (Corrosion Resistant)

Dash No. AN912	A	T	B ± 1/32	C		K Dia.	
1	1/4	1/8	25/32	.625	+.004	.327	+.000 -.016
2	3/8	1/4		.750		.423	+.000 -.019
3		1/8				.327	+.000 -.016
4	1/2	3/8	1-1/64	.937		.557	+.000 -.028
5		1/4				.423	+.000 -.019
6		1/8				.327	+.000 -.016
7	3/4	1/2	1-1/16	1.125	+.005	.688	+.000 -.034
8		3/8				.557	+.000 -.028
9		1/4				.423	+.000 -.019
10	1	3/4	1-1/4	1.375		.897	+.000 -.049
11		1/2				.688	+.000 -.034
12		3/8				.557	+.000 -.028

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN914-ELBOW



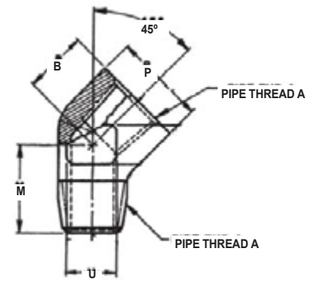


Pipe Internal and External Thread, 90°
AN914-#D (Aluminum)
AN914-# (Copper Alloy)
AN914-#J (Corrosion Resistant)

Dash No. AN914	THD A ANPT	B +3/64 -0	C	M +3/64 -0	P Dia.
1	1/8	39/64	5/8	55/64	37/64
2	1/4	57/64	13/16	1-7/32	25/32
3	3/8	15/16	15/16	1-19/64	59/64
4	1/2	1-11/64	1-3/16	1-39/64	1-5/32
6	3/4	1-11/32	1-3/8	1-47/64	1-23/64

AN915-ELBOW





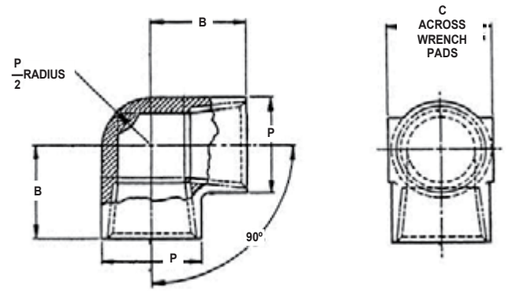
Pipe 45°
AN915-#D (Aluminum)
AN915-# (Copper Alloy)
AN915-#J (Corrosion Resistant)

Dash No. AN915	THD A ANPT	B +3/64 -0	C	M +3/64 -0	P Dia.	U Approximate
1	1/8	15/32	5/8	23/32	37/64	5/16
2	1/4	5/8	13/16	1-3/64	25/32	7/16
3	3/8	23/32	15/16	1-1/16	59/64	1/2
4	1/2	29/32	1-3/16	1-11/32	1-5/32	5/8
6	3/4	31/32	1-3/8	1-3/8	1-23/64	3/4
8	1	1-1/8	1-3/4	1-23/32	1-11/16	7/8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN916-ELBOW



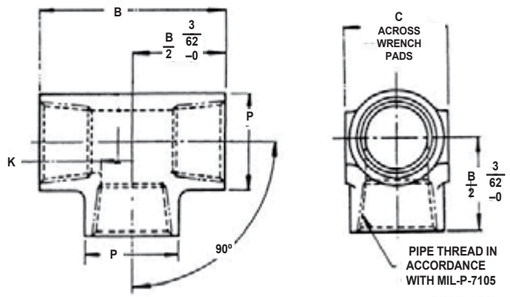


Pipe Internal Thread, 90°
AN916-#D (Aluminum)
AN916-# (Copper Alloy)
AN916-#J (Corrosion Resistant)

Dash No. AN916	Pipe THD ANPT	B +3/64 -0	C	P Dia.
1	.125	.641	.625	.578
2	.250	.891	.813	.781
3	.375	.969	.936	.922
4	.500	1.234	1.188	1.156
6	.750	1.344	1.375	1.359

AN917-TEE





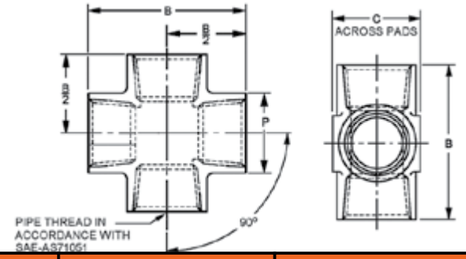
Pipe Internal Thread
AN917-#D (Aluminum)
AN917-# (Copper Alloy)
AN917-#J (Corrosion Resistant)

Dash No. AN917	Pipe THD ANPT	B +3/64 -0	C	P Dia.
1	1/8	1-9/32	5/8	37/64
2	1/4	1-25/32	13/16	25/32
3	3/8	1-15/16	15/16	59/64
4	1/2	2-15/32	1-3/16	1-5/32
6	3/4	2-11/16	1-3/8	1-23/64
8	1	3-1/4	1-3/4	1-11/16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN918-FEMALE CROSS

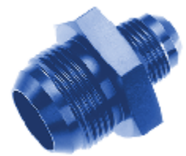


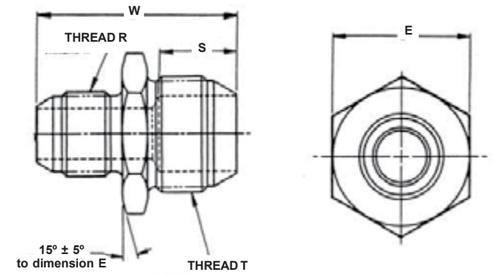


Pipe Internal Thread
AN918-#D (Aluminum)
AN918-# (Steel)
AN918-#J (Corrosion Resistant)

Dash No. AN918	Pipe THD ANPT	B +3/32 -0	C	P Dia.
1	1/8	1-9/32	5/8	37/64
2	1/4	1-25/32	13/16	25/32
3	3/8	1-15/16	15/16	59/64
4	1/2	2-15/32	1-3/16	1-5/32
6	3/4	2-11/16	1-3/8	1-23/64
8	1	3-1/4	1-3/4	1-11/16

AN919-REDUCER - MALE TO MALE





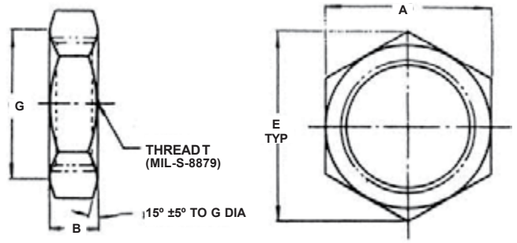
External Thread
Flared Tube, 37° Flare
AN919-#D (Aluminum)
AN919-# (Steel)
AN919-#J (Corrosion Resistant)

Dash No. AN919	Large End		Small End		E	W	S
	Tube O.D.	Thread T (REF)	Tube O.D.	Thread R (REF)			
0	3/16	3/8-24	1/8	5/16-24	.625	1-11/64	5/8
1	1/4	7/16-20				1-1/4	11/16
2			3/16	3/8-24	.688	1-9/32	37/64
3	5/16	1/2-20	1/4	7/16-20	.750	1-23/64	39/64
4	3/8	9/16-18	1/8	5/16-24	.813	1-19/64	5/8
5			3/16	3/8-24		1-21/64	
6			1/4	7/16-20		1-13/32	
7			5/16	1/2-20			
8	1/2	3/4-16	1/8	5/16-24	1.000	1-27/64	23/32
9			3/16	3/8-24		1-29/64	
10			1/4	7/16-20		1-17/32	
11			5/16	1/2-20			
12			3/8	9/16-18			
13	5/8	7/8-14	1/4	7/16-20	1.125	1-21/32	51/64
14			3/8	9/16-18			
15			1/2	3/4-16		1-3/4	
16	3/4	1-1/16-12	1/4	7/16-20	1.375	1-51/64	57/64
17			5/16	1/2-20			
18			3/8	9/16-18			
19			1/2	3/4-16		1-57/64	
20			5/8	7/8-14		2	
21	1	1-5/16-12	1/4	7/16-20	1.625	1-27/32	
22			5/8	7/8-14		2-3/64	
23			3/4	1-1/16-12		2-5/32	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN924-NUT



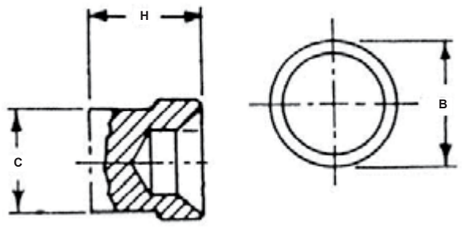


Tube, Bulkhead and
Universal Fitting
AN924- #D (Aluminum)
AN924- # (Steel)
AN924-#J (Corrosion Resistant)

Dash No. AN924	Tube O.D.	Thread T (REF)	G Dia.	A		B	E
2	1/8	5/16-24	.500	.563	+ .003 - .004	7/32	.629
3	3/16	3/8-24	.562	.625			.699
4	1/4	7/16-20	.625	.688		1/4	.771
5	5/16	1/2-20	.687	.750			.842
6	3/8	9/16-18	.750	.813		17/64	.914
8	1/2	3/4-16	.937	1.000		5/16	1.127
10	5/8	7/8-14	1.062	1.125		23/64	1.270
12	3/4	1-1/16-12	1.274	1.375		13/32	1.555
16	1	1-5/16-12	1.524	1.625	±.016		1.827
20	1-1/4	1-5/8-12	1.838	1.938			2.184
24	1-1/2	1-7/8-12	2.093	2.188	±.020		2.465

AN929-CAP ASSEMBLY





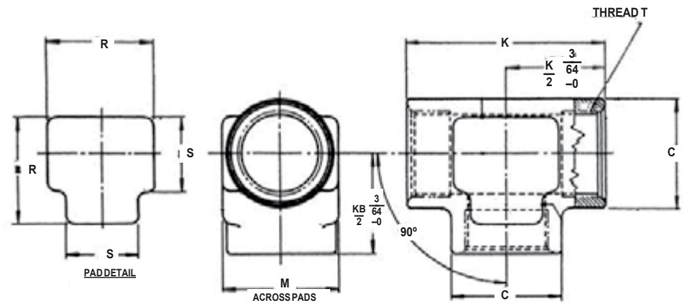
Pressure Seal
Flared Tube Fitting
AN929- # (Aluminum)
AN929-#J (Corrosion Resistant)

Dash No. AN929	Tube O.D.	B Dia. +.000 −.003	C Dia.	H
2	1/8	.263	5/32	17/32
3	3/16	.325	7/32	
4	1/4	.378	9/32	
5	5/16	.441	11/32	9/16
6	3/8	.503	27/64	5/8
8	1/2	.683	35/64	3/4
10	5/8	.799	43/64	
12	3/4	.974	13/16	7/8
16	1	1.224	1-1/16	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN938-TEE



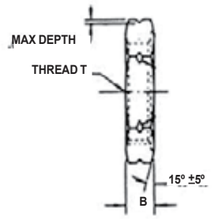


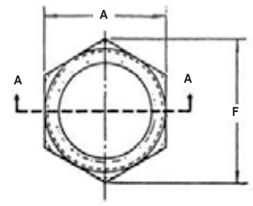
Tube, Internal Thread
AN938D# (Aluminum)
AN938-# (Steel)

Dash No. AN938	Tube O.D.	Thread T (REF)	C Dia.	H Approx.	K +3/32 -0	R Approx.	S Approx.
4	1/4	7/16-20	11/16	3/4	1-1/2	3/4	1/2
5	5/16	1/2-20	3/4			7/8	9/16
6	3/8	9/16-18	13/16	13/16	1-5/8		
8	1/2	3/4-16	1-1/16	1-1/16	2	1-1/16	11/16
10	5/8	7/8-14	1-3/16	1-3/16	2-5/16	1-3/16	3/4

AN6289-NUT







Tube with Groove
for O-Ring
AN6289D# (Aluminum)
AN6289-# (Steel)
AN6289J# (Corrosion Resistant)

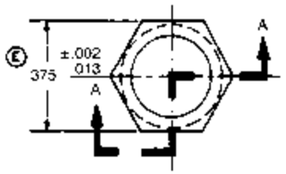
Dash No. AN6289	Tube O.D.	Thread T (REF)	A	B	F
2	1/8	5/16-24	.563	1/4	.65
3	3/16	3/8-24	.625		.72
4	1/4	7/16-20	.688	9/32	.79
5	5/16	1/2-20	.750		.87
6	3/8	9/16-18	.813	19/64	.94
8	1/2	3/4-16	1.000	11/32	1.15
10	5/8	7/8-14	1.125	25/64	1.30
12	3/4	1-1/16-12	1.375	7/16	1.59
16	1	1-5/16-12	1.625		1.88

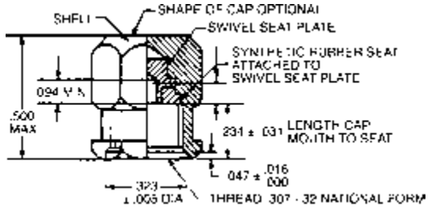
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS20813-1 CAP

Pneumatic Valve Cap, High Pressure



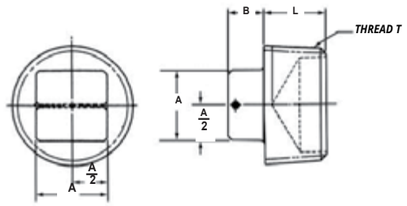




MS20913-PLUG

Square Head
Safety Wire Hole
MS20913-#D (Aluminum)
MS20913-# (Copper)
MS20913-#S (Steel)



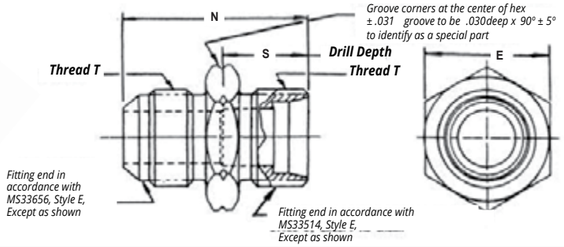


Dash No. MS20913	Thread T NPT	A +.002 / -.010	B	L
0	1/16-27	.188	.188	.312
1	1/8-27	.281	.250	.328
2	1/4-18	.375	.281	.484
3	3/8-18	.438	.312	
4	1/2-14	.563	.375	.625
6	3/4-14	.625	.438	.641
8	1-11-1/2	.813	.500	.797

MS21900 ADAPTER

Adapter, Flareless
Tube to a Flared Tube
MS21900D# (Aluminum 2024)
MS21900-# (Steel)
MS21900J# (Corrosion Resistant)
MS21900W# (Aluminum 7075)
MS21900V#P (CRES Steel, Cad Plated)



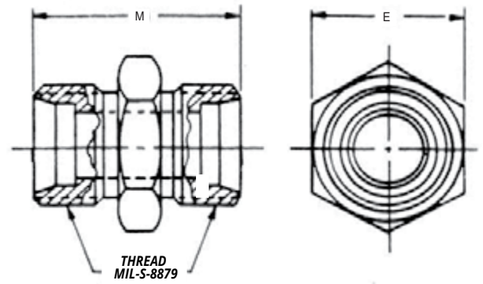


Dash No. MS21900	Tube O.D.	Thread T (REF)	E	N	S
3	3/16	.3750-24	.625	1.156	THRU
4	1/4	.4375-20	.688	1.188	.563
5	5/16	.5000-20	.750	1.156	THRU
6	3/8	.5625-18	.813	1.281	
8	1/2	.7500-16	1.000	1.469	.688
10	5/8	.8750-14	1.125	1.688	.781
12	3/4	1.0625-12	1.375	1.938	.875

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21902 UNION



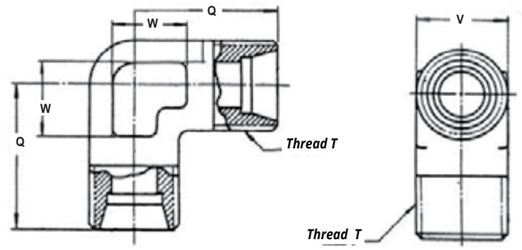


Flareless Tube
MS21902D# (Aluminum 2024)
MS21902-# (Steel)
MS21902J# (CRES Steel 304)
MS21902W# (Aluminum 7075)
MS21902V#P (CRES Steel, Cad Plated)

Dash No. MS21902	Tube O.D.	Thread T (REF) MIL-S-8879	E (REF)	M
2	1/8	.3125-24	.563	1.063
3	3/16	.3750-24	.625	1.094
4	1/4	.4375-20	.688	1.063
5	5/16	.5000-20	.750	
6	3/8	.5625-18	.813	1.188
8	1/2	.7500-16	1.000	1.375
10	5/8	.8750-14	1.125	1.563
12	3/4	1.0625-12	1.375	1.750

MS21904 ELBOW





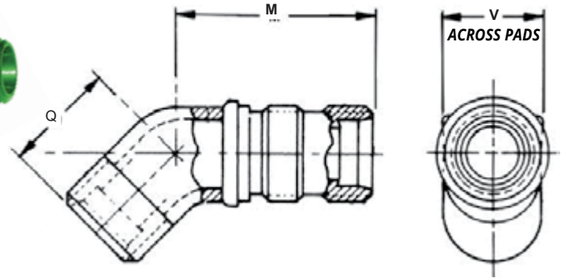
Flareless Tube, 90°
MS21904D# (Aluminum 2024)
MS21904-# (Steel)
MS21904J# (CRES Steel 304)
MS21904W# (Aluminum 7075)
MS21904V#P (CRES Steel, Cad Plated)

Dash No. MS21904	Tube O.D.	Thread T MIL-S-8879	Q +3/64 -0	V	W Approximate
2	1/8	.3125-24	3/4	5/16	5/16
3	3/16	.3750-24	13/16	3/8	
4	1/4	.4375-20	7/8	7/16	3/8
5	5/16	.5000-20	15/16	1/2	1/2
6	3/8	.5625-18	1-1/32	9/16	
8	1/2	.7500-16	1-1/4	3/4	5/8
10	5/8	.8750-14	1-13/32	7/8	3/4
12	3/4	1.0625-12	1-9/16	1-1/16	7/8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21907 ELBOW



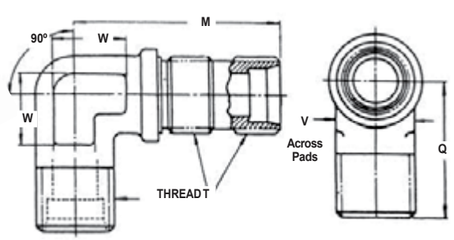


Bulkhead Universal
45° Flareless Tube
MS21907D# (Aluminum 2024)
MS21907-# (Steel)
MS21907J# (Corrosion Resistant)
MS21907W# (Aluminum 7075)
MS21907V#P (CRES Steel, Cad Plated)

Dash No. MS21907	Tube O.D.	Thread T MIL-S-8879	M +.047 -0	Q +.047 -0	V
2	1/8	.3125-24	1.281	.625	.312
3	3/16	.3750-24	1.328	.656	.375
4	1/4	.4375-20	1.453	.687	.437
5	5/16	.5000-20		.719	.500
6	3/8	.5625-18	1.562	.812	.562
8	1/2	.7500-16	1.812	.969	.750
10	5/8	.8750-14	2.047	1.062	.875
12	3/4	1.0625-12	2.250	1.250	1.062

MS21908 ELBOW





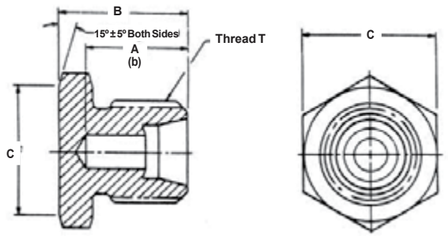
Bulkhead Universal
90° Flareless Tube
MS21908D# (Aluminum 2024)
MS21908-# (Steel)
MS21908J# (CRES Steel 304)
MS21908W# (Aluminum 7075)
MS21908V#P (CRES Steel, Cad Plated)

Dash No. MS21908	Tube O.D.	Thread T MIL-S-8879	M +3/64 -0	Q +3/64 -0	V	W Approximate
2	1/8	.3125-24	1-5/16	25/32	5/16	5/16
3	3/16	.3750-24	1-25/64	29/32	3/8	5/16
4	1/4	.4375-20	1-1/2	15/16	7/16	3/8
5	5/16	.5000-20	1-17/32	1-1/32	1/2	1/2
6	3/8	.5625-18	1-11/16	1-1/16	9/16	1/2
8	1/2	.7500-16	1-31/32	1-5/16	3/4	5/8
10	5/8	.8750-14	2-1/4	1-1/2	7/8	3/4
12	3/4	1.0625-12	2-15/32	1-5/8	1-1/16	7/8

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21913 PLUG



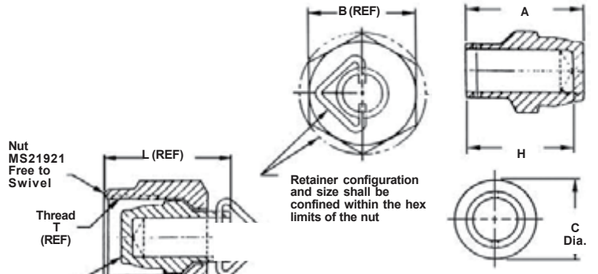


Hex Head, Flareless Tube
MS21913D# (Aluminum 2024)
MS21913-# (Steel)
MS21913J# (CRES Steel 304)
MS21913W# (Aluminum 7075)
MS21913V#P (CRES Steel, Cad Plated)

Dash No. MS21913	Tube O.D.	Thread T MIL-S-8879	A +-3/64 -0	B	C
2	1/8	.3125-24	3/8	9/16	.438
3	3/16	.3750-24	7/16	39/64	
4	1/4	.4375-20		41/64	.500
5	5/16	.5000-20	1/2	43/64	.563
6	3/8	.5625-18		23/32	.625
8	1/2	.7500-16	9/16	27/32	.812
10	5/8	.8750-14	5/8	63/64	.968
12	3/4	1.0625-12	11/16	1-1/32	1.125
16	1	1.3125-12		1-1/16	1.375

MS21914 CAP





Pressure Seal,
Flareless Tube Fitting
MS21914-#D (Aluminum 2024)
MS21914-# (Steel)
MS21914-#J (CRES Steel 304)
MS21914-#W (Aluminum 7075)
MS21914V#P (CRES Steel, Cad Plated)

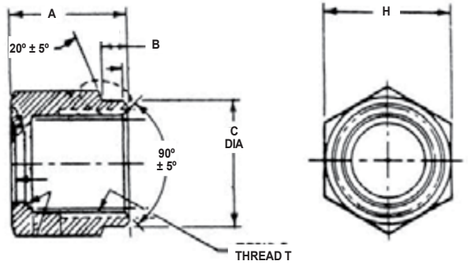
Dash No. MS21914	Tube O.D.	Thread T MIL-S-8879	A +.010	B (REF)	C Dia. +.005	H +.010	L (REF)
2	1/8	.3125-24	.600	.375	.256	-	.720
3	3/16	.3750-24	.672	.438	.318	-	.767
4	1/4	.4375-20	.745	.562	.371	.600	.893
5	5/16	.5000-20	.845	.625	.434	.700	.977
6	3/8	.5625-18	.885	.688	.490	.740	.965
8	1/2	.7500-16	.935	.875	.670	.790	1.077
10	5/8	.8750-14	1.062	1.000	.786	.917	1.210
12	3/4	1.0625-12	1.082	1.250	.960	.937	1.208
16	1	1.3125-12	1.218	1.500	1.210	1.073	1.189

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS21921 NUT



Sleeve Coupling, Flareless
MS21921-#D (Aluminum 2024)
MS21921-# (Steel)
MS21921-#J (CRES Steel 304)
MS21921-#W (Aluminum 7075)
MS21921V#P (CRES Steel, Cad Plated)

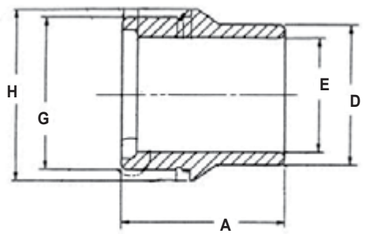


Dash No. MS21921	Tube O.D.	Thread T MIL-S-8879	A +.010	B +.010	C +.005 -.000	H
2	1/8	.3125-24	.53	.14	.365	.375
3	3/16	.3750-24	.58	.10	.427	.438
4	1/4	.4375-20	.72	.18	.552	.562
5	5/16	.5000-20	.76		.615	.625
6	3/8	.5625-18	.80		.677	.688
8	1/2	.7500-16	.86		.865	.875
10	5/8	.8750-14	.98	.22	.990	1.000
12	3/4	1.0625-12	1.00	.24	1.240	1.250
16	1	1.3125-12	1.05	.26	1.490	1.500

MS21922 SLEEVE



Coupling, Flareless
MS21922-# (Steel)
MS21922#C (CRES Steel)

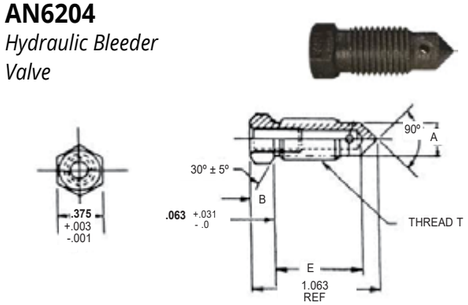


Dash No. MS21922		Tube O.D.	A +.01	D	E +.003 -.000	G +.004 -.000	H
Steel	Corrosion Res.						
2	2C	1/8	.41	.164	.129	.175	.256
3	3C	3/16	.45	.226	.193	.252	.299
4	4C	1/4	.52	.294	.255	.309	.359
5	5C	5/16	.59	.360	.318	.373	.422
6	6C	3/8	.66	.419	.380	.435	.484
8	8C	1/2	.75	.546	.506	.585	.619
10	10C	5/8	.80	.682	.633	.707	.750
12	12C	3/4	.75	.817	.758	.836	.938
16	16C	1	.80	1.065	1.008	1.086	1.156

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AN6204

Hydraulic Bleeder Valve



Dash No. AN6204	THREAD T	A +.01	B	E
1	.375-24	.278	.188	.734
2	.250-28	.190 +.000 -.005	.43	.531

MS28889-2

Valve, Air
High Pressure Charging
5000 PSI



MS20271

Universal Joint

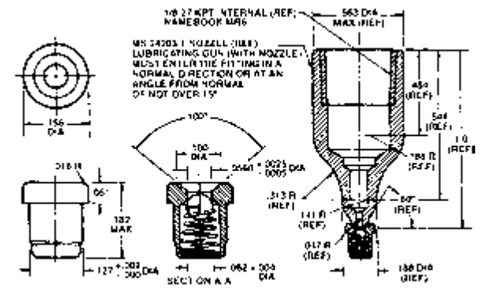
Part Number	Nominal Size	Length
MS20271B6	.375	2.00
MS20271B8	.500	2.312
MS20271B10	.625	2.750
MS20271B12	.750	3.187



NAS516-1A

Lubrication Fitting
1/8 Inch Drive,
Flush Type

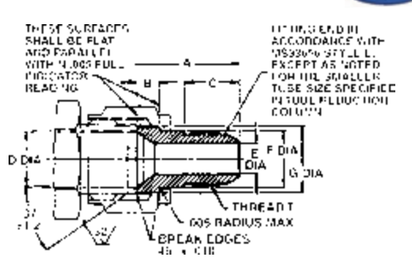




NAS1564D6-4

Reducer
Flared Tube





Thread	Tube Reduction	A	B	C	D Dia.	E Dia.	F Dia.	G Dia.
7/16-20	3/8 - 1/4	.969	.172	.550	.441	.172	.432	.502

MS29526-2

Cap, Pressure
Fuel Servicing
Nominal
2-1/2 inch Dia.
Non-Flush Type



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

CAPLUGS CD SERIES



Threaded Plastic Caps for Flared Fittings

CD Series	Tube Size	To Fit Thread
CD-3	3/16	3/8-24
CD-4	1/4	7/16-20
CD-5	5/16	1/2-20
CD-6	3/8	9/16-18
CD-8	1/2	3/4-16
CD-10	5/8	7/8-14
CD-12	3/4	1-1/16 -12
CD-16	1	1-5/16 -12

ASC SERIES



Aluminum Caps for Threaded Flared Fittings

ASC Series	Tube Size	To Fit Thread
ASC-4	1/4	7/16-20
ASC-5	5/16	1/2-20
ASC-6	3/8	9/16-18
ASC-8	1/2	3/4-16
ASC-10	5/8	7/8-14
ASC-12	3/4	1-1/16 -12
ASC-16	1	1-5/16 -12

EC SERIES



Electric-Static-Free Caps for Threaded Connector

EC Series	Will Cap Thread Size
EC-6	3/8
EC-8	1/2
EC-10	5/8
EC-12	3/4
EC-14	7/8
EC-16	1

PDE SERIES



Threaded Plastic Plugs For Flareless Tubes and Nut Assemblies

PDE Series	Tube Size	To Fit Thread
PDE-4	1/4	7/16-20
PDE-5	5/16	1/2-20
PDE-6	3/8	9/16-18
PDE-8	1/2	3/4-16
PDE-10	5/8	7/8-14
PDE-12	3/4	1-1/16 -12
PDE-16	1	1-5/16 -12

PD SERIES



Threaded Plastic Plugs for Flared Fittings

PD Series	Tube Size	To Fit Thread
PD-20	1/8	5/16-24
PD-30	3/16	3/8-24
PD-40	1/4	7/16-20
PD-50	5/16	1/2-20
PD-60	3/8	9/16-18
PD-80	1/2	3/4-16
PD-100	5/8	7/8-14
PD-120	3/4	1-1/16 -12

ASP SERIES



Threaded Aluminum Plugs for 37° Flared Fittings

ASP Series	Tube Size	To Fit Thread
ASP-4	1/4	7/16-20
ASP-5	5/16	1/2-20
ASP-6	3/8	9/16-18
ASP-8	1/2	3/4-16
ASP-10	5/8	7/8-14
ASP-12	3/4	1-1/16 -12
ASP-16	1	1-5/16 -12

EP SERIES



Electro-Static-Free Plugs for Threaded Connector

EP Series	Will Plug Nominal Thread Size
EP-8	1/4-28
EP-10	5/8-24
EP-12	3/4-20
EP-14	7/8-20
EP-16	1-20
EP-20	1-1/4-18

ADP SERIES

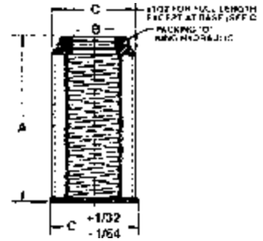


Threaded Aluminum Plugs for Flareless Tube and Hose Assemblies

ADP Series	Tube Size	To Fit Thread
ADP-4	1/4	7/16-20
ADP-5	5/16	1/2-20
ADP-6	3/8	9/16-18
ADP-7	7/16	5/8-18
ADP-8	1/2	3/4-16
ADP-10	5/8	7/8-14
ADP-12	3/4	1-1/16 -12

AN6235

Filter Element



Part #	A +1/16 -0	B +1/64 −DIA	C AND C DIA	Capacity GPM	Packing "O" - Ring Hydraulic
AN6235-1A	1-7/8	25/64	53/64	1/2	AN6227-7
AN6235-2A	4-5/8	41/64	1-1/8	3	AN6227-12
AN6235-3A	3-7/16	57/64	1-5/8	6	AN6227-17

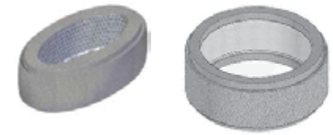
1J7-1

Airbourne Filter For Vacuum Systems



Filter replacement element Part # D9-18-1

BRACKETT AIR FILTERS



TYPE II - Foam element on outside of steel screen cylinder or oval

PART NUMBERS	
BA-3	BA-5110
BA-16	BA-5110A
BA-104	BA-6108
BA-2205L	BA-7112
BA-4106	BA-8103-1
BA-4108	BA-8110

1J7-2

Airbourne Filter For Vacuum Systems



Filter replacement element Part # D9-18-1

CONICAL SEALS AP50 & AS4824

Special Note:The AP50 & AS4824 Conical seals have the same fit, form and function. The AP50's are significantly more expensive (double to triple) for reasons only the Mfg is aware of. We do not stock the Copper. Please allow 1 week & 50 pc MIN



Fitting Size	AP50 Nickel	AP50 Copper	AS4824 Nickel	AS4824 Copper
-4	AP50N04	AP50C04	AS4824N04	AS4824C04
-5	AP50N05	AP50C05	AS4824N05	AS4824C05
-6	AP50N06	AP50C06	AS4824N06	AS4824C06
-8	AP50N08	AP50C08	AS4824N08	AS4824C08
-10	AP50N10	AP50C10	AS4824N10	AS4824C10

CURTIS DRAIN VALVES

Quick Opening for Oil and Fuel System

Part #	Thread Size
CCA-1550	1/8" NPT
CCA-1600	1/4" NPT
CCA-1650	3/8" NPT
CCA-3400	1/2" I.D. Hose
CCA-4850	1/8" NPT
CCA-7450	1/8" NPT



CCA-1550
Material - Brass
Length - 1.358"
Action - Push to Open
Turn to Lock Open

CCA-1600
Material - Brass
Length - 1.690"
Action - Push to Open
Turn to Lock Open

CCA-1650
Material - Brass
Length - 1.920"
Action - Push to Open
Turn to Lock Open

CCA-3400
Material - Brass
Length - 1.643"
Action - Spiral,
Lock Open

CCA-4850
Material - Brass
Cadmium-Plated
Length - 1.358"
Action - Spiral
Lock Open

CCA-7450
Material - Brass
Cadmium-Plated
Length - 1.358"
Action - Spiral
Lock Open

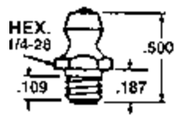
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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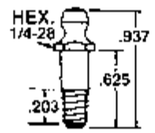
GREASE FITTINGS

AS15001P, AS15002P
AS15003P, AS15006P

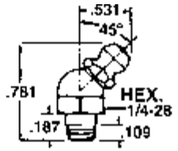




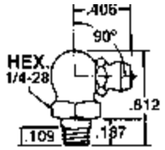
AS15001-1P



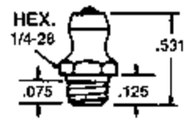
AS15001-2P



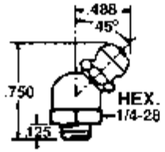
AS15001-3P



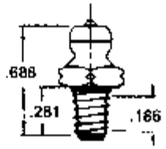
AS15001-4P



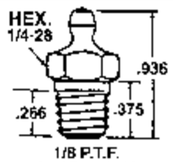
AS15002-1P



AS15002-3P

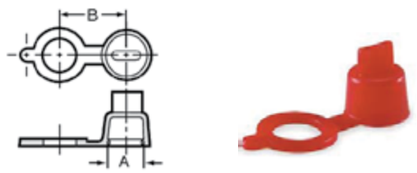


AS15003-1P



AS15006-1P

GC-5 CAPLUG



Grease cap with retaining collar. Securely snaps over fittings to seal out dirt and moisure

A Dia.	B Dia.
0.234	0.47

MS51523B4



TEE, Tube to Swivel on Run, 37° Flared

Thread	Tube O.D.	Length
7/16 - 20	1/4	1.890

AEROQUIP & STRATOFLEX FITTINGS

491 (300) - For Use On Aeroquip 303 & Stratoflex 111 Hose



Aeroquip 491	Stratoflex 300	Tube O.D.	Thread Size
3	3S	3/16	3/8-24
4	4S	1/4	7/16-20
5	5S	5/16	1/2-20
6	6S	3/8	9/16-18
8D	8D	1/2	3/4-16

AEROQUIP & STRATOFLEX FITTINGS

471 (311) - For Use On Aeroquip 306 & Stratoflex 193 Hose



Aeroquip 471	Stratoflex 311	Tube O.D.	Thread Size
2D	2D	1/8	5/16-24
3D	3D	3/16	3/8-24
4D	4D	1/4	7/16-20
6D	6D	3/8	9/16-18
8D	8D	1/2	3/4-16

AEROQUIP 303 MEDIUM PRESSURE HOSE & FITTINGS



303 HOSE {MIL-H-8794} CONSTRUCTION:

Inner tube is made of a seamless synthetic rubber compound reinforced by a synthetic-impregnated single wire braid over a single cotton braid. Outer cover is synthetic impregnated oil-resistant braid.

OPERATING TEMP:

-65°F to +250°F

APPLICATION:

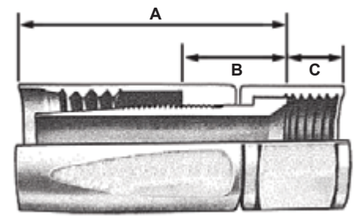
Medium pressure hydraulic, pneumatic, fuel, oil and coolant systems {specified in MS33620}.

IDENTIFICATION:

Grey-black braided cover, a yellow marking with symbol "MIL-H-8794", size, date of manufacture (quarter year/year) and hose manufacturer's code. 90° from this is a yellow indicator stripe with "Aeroquip 303". All markings are spaced 9 inches apart.

Hose				Hose Fitting			
Part Number	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part Number	Max A	Max B	Max C
303-3	.125	.453	3,000	491-3	1.43	.65	.32
303-4	.188	.516	3,000	491-4	1.51	.65	.35
303-5	.250	.578	3,000	491-5	1.64	.74	.38
303-6	.313	.672	2,000	491-6	1.79	.77	.38
303-8	.406	.766	2,000	491-8D	2.22	.94	.43
303-10	.500	.922	1,750	491-10D	2.42	1.0	.51
303-12	.625	1.078	1,500	491-12D	2.70	1.0	.57

491 HOSE FITTING



⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

AEROQUIP 306 LOW PRESSURE HOSE & FITTINGS



306 HOSE {MIL-H-5593} CONSTRUCTION:

Inner tube is made of a seamless synthetic rubber compound reinforced by a single cotton braid. Outer cover is also synthetic rubber compound.

OPERATING TEMP:

-65°F to +160°F

APPLICATION:

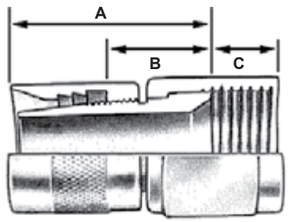
Air or vacuum instrument systems, automatic pilots & lines to pressure guages used with these systems {specified in MS33620}.

IDENTIFICATION:

Black cover, a yellow indicator stripe with symbol "LP", manufacturer's code, size, and date of manufacture (quarter year/year). 180° from this is "Aeroquip 306" in a white stripe. All markings are spaced 6 inches apart.

Hose				Hose Fitting			
Part Number	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part Number	Max A	Max B	Max C
306-2	.125	.344	300	471-2D	.88	.40	.34
306-3	.188	.406	250	471-3D	1.00	.44	.32
306-4	.250	.469	200	471-4D	1.04	.47	.35
306-6	.375	.594	150	471-6D	1.15	.54	.38
306-8	.500	.750	150	471-8D	1.37	.67	.43
306-10	.625	.875	150	471-10D	1.57	.72	.51

471 HOSE FITTING



AEROQUIP FIRE SLEEVE

Construction: *Specially developed to meet the fire resistance requirements of FAATSO-C53 or TSO-C75. Uniform layer of fiberglass tubing impregnated and overlaid with a flame resistant silicone rubber. Asbestos yarn used in the braid is closely spun to provide maximum protection. The silicone rubber will not soften, peel, blister or harden after contact with MIL-H-5606, distilled water, MIL-L-7808, MIL-L-6082, or Skydrol 500.*

Operating Temperatures: *-65°F to +500°F*



Identification: *Outer surface is orange in color, with a simple black layline consisting of "Aeroquip AE102/624-size-code" every 10 inches.*

Application: *Can be used for all fuel, oil, hydraulic, fire extinguisher and propeller feathering lines. {Use 900591B Clamps to secure firesleeve material}*

Aeroquip Part #	Inside Dia.	Use with Clamp	Use w/ Hose# 303 / 111	Use w/ Hose #601	Use w/ Hose # AE246	Use w/ Hose # MIL-H-6000	Use w/ Hose # 666	Weight lbs. per ft
AE102-8	1/2	900591B-1C	-3	-4	-4	1/4	-3, -4, -5	.112
AE102-9	9/16	900591B-2C	-4	-5	---	1/4	---	.122
AE102-10	5/8	900591B-2C	-5	-6	---	---	---	.142
AE102-11	11/16	900591B-2C	---	---	-6	3/8	-6	.158
AE102-12	3/4	900591B-2C	-6	-8	---	1/2	---	.166
AE102-13	13/16	900591B-2C	---	---	-8	---	-8	.175
AE102-14	7/8	900591B-2C	-8	---	---	5/8	-10	.187
AE102-16	1	900591B-3C	-10	-10	-10	3/4	---	.195
AE102-18	1-1/8	900591B-3C	-12	-12	---	---	---	.226
AE102-20	1-1/4	900591B-3C	---	---	---	---	---	.248

AERODUCT DUCTING

SCAT - *One ply silicone rubber impregnation with helical copper-coated high carbon steel wire inside from -80° F to +500° F. (Red) Available in 11 ft. lengths.*

SCEET - *Two ply silicone rubber impregnation with helical copper-coated wire inside with wire between plies from -80° F to +500° F. (Red) Available in 11 ft. lengths.*

Inside Diameter	Scat	Sceet
3/4"	SCAT-3	SCEET-3
1"	SCAT-4	SCEET-4
1-1/4"	SCAT-5	SCEET-5
1-1/2"	SCAT-6	SCEET-6
1-3/4"	SCAT-7	SCEET-7
2"	SCAT-8	SCEET-8
2-1/2"	SCAT-10	SCEET-10
3"	SCAT-12	SCEET-12

BAND-IT CLAMPS



Use with Aeroquip Firesleeve

Aeroquip Part #	Band-It Part #
900591B-1C	JS242
900591B-2C	JS252
900591B-3C	JS253

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MIL-DTL-6000 OIL AND COOLANT HOSE



Construction: *Inner tube is made of a seamless synthetic rubber compound reinforced by high strength mildew resistant yarn. Outer cover consists of a polychloroprene rubber reinforced and compounded.*

Operating Temp: *-40°F to +250°F*

Application: *Designed to handle the effects of oil, alcohol, coolant, and water. Lightweight and flexibility make MIL-DTL-6000 great for use on the hard-to-reach spots in tight engine compartments.*

Identification: *Black cover, shall have a red stripe consisting of the (CAGE) code and a whitestripe consisting of the size, cure date in quarter and year, and specification.*

Part Number	Tube Size	Inside Diameter	Outside Diameter	Operating P.S.I.	Proof P.S.I.	Burst P.S.I.
MIL-DTL-6000D-1/4	1/4	.250	.585	250	500	1000
MIL-DTL-6000D-3/8	3/8	.375	.713	250	500	1000
MIL-DTL-6000D-1/2	1/2	.500	.840	250	500	1000
MIL-DTL-6000D-5/8	5/8	.625	.965	250	500	1000
MIL-DTL-6000D-3/4	3/4	.750	1.09	250	500	1000
MIL-DTL-6000D-1	1	1.0	1.34	250	500	1000

STRATOFLEX 111 MEDIUM PRESSURE HOSE & FITTINGS

111 HOSE {MIL-H-8794} CONSTRUCTION:
Inner tube is made of a seamless synthetic rubber compound reinforced by one fiber braid and one high tensile steel wire braid. Outer cover is a fiber braid impregnated with oil and mildew resistant rubber adhesive.

OPERATING TEMP: *-65°F to +250°F*

APPLICATION: *Aircraft hydraulic, coolant, pneumatic, oil and fuel systems. {specified in MS33620}*

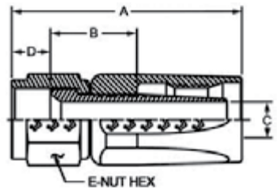
IDENTIFICATION: *Stratoflex name and part number, specification number, size, quarter and year of manufacture, and federal ID number.*



Part Number	Tube Size	Inside Dia.	Outside Dia.	Nom. P.S.I.
111-3	.125	.125	.450	3,000
111-4	.188	.188	.520	3,000
111-5	.250	.250	.580	3,000
111-6	.312	.312	.670	2,000
111-8	.406	.406	.770	2,000
111-10	.500	.500	.920	1,750

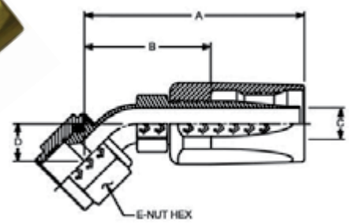
Straight Flared Fitting

Part Number	A	B	C	D	Hose Size	Thread Size
300-3S	1.62	.65	.13	.32	111-3	.375-24
300-4S	1.74	.63	.17	.35	111-4	.4375-20
300-5S	1.90	.74	.23	.38	111-5	.500-20
300-6S	2.04	.76	.30	.38	111-6	.5625-18
300-8D	2.51	.93	.39	.43	111-8	.750-16
300-10D	2.79	.99	.49	.51	111-10	.875-14









45° Elbow Flared Fitting

Part Number	A	B	C	D	Hose Size	Thread Size
646-4S	1.87	1.12	.13	.35	111-4	.4375-20
646-5S	2.12	1.34	.17	.42	111-5	.500-20
646-6S	2.28	1.38	.24	.44	111-6	.5625-18
646-8D	2.70	1.55	.36	.46	111-8	.750-16
646-10D	2.99	1.70	.46	.54	111-10	.875-14

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

STRATOFLEX 193 LOW PRESSURE HOSE & FITTINGS



193 HOSE {MIL-H-5593} CONSTRUCTION:
Inner tube is made of a seamless Buna-N reinforced by a braid of high tensile fiber cord. Outer cover is a synthetic rubber compound.

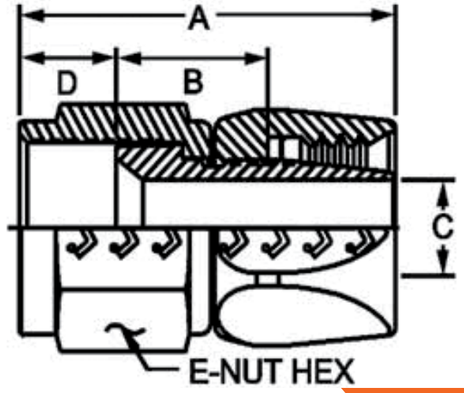
OPERATING TEMP: *-65°F to +165°F*

APPLICATION: *Low pressure air or vacuum instrument systems, automatic pilots & lines to pressure guages used with these systems {specified in MS33620}. Vacuum service 20"Hg sizes -2 thru -6; 10"Hg sizes -8 and -10.*

IDENTIFICATION: *Black cover, a yellow symbol "LP-MIL-H-5593-size", date of manufacture (quarter year/year) and manufacturer's code. "Stratoflex 193-size" is marked on other side of hose. Yellow markings are repeated every 12 inches.*

Hose				Hose Fitting				
Part Number	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part Number	A	B	C	D
193-2	.125	.350	300	311-2D	1.09	.39	.06	.34
193-3	.188	.410	250	311-3D	1.18	.46	.13	.32
193-4	.250	.480	200	311-4D	1.26	.46	.17	.35
193-6	.375	.600	150	311-6D	1.40	.54	.30	.38
193-8	.500	.750	150	311-8D	1.66	.67	.39	.43
193-10	.625	.870	150	311-10D	1.94	.72	.48	.51

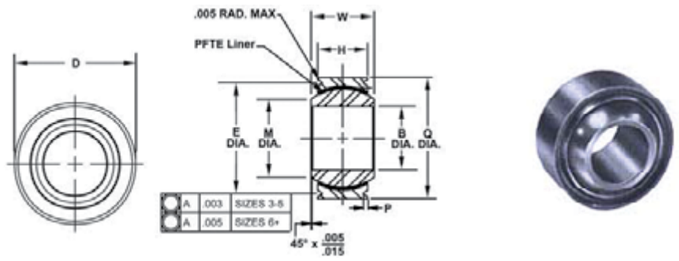
311 HOSE FITTING





⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

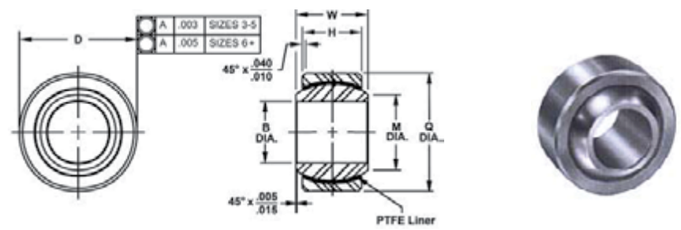
MS14101



Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Grooved, Outer Ring

MS14101	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	P +.000 -.015	Q MIN	W +.000 -.002	E +.000 -.010	Static Limit Load (lbs) Radial	Static Limit Load (lbs) Axial	Oscillating Load (lbs)	No-Load Rotational Breakaway Torque Standard	No-Load Rotational Breakaway Torque "K" Type	WT. Lb. Max (Ref)
-3	.1900	.5625	.218	.293	.025	10	.281	.500	3975	150	1500	0.25 - 5.0	0 - 0.5	.020
-4	.2500	.6562	.250	.364			.343	.594	6040	430	3320			.020
-5A	.3125	.7500	.281	.419			.375	.660	8750	700	5460	0.25 - 8.0	0 - 1.0	.030
-6	.3750	.8125	.312	.475	.035	9	.406	.702	10540	1100	6600			.040

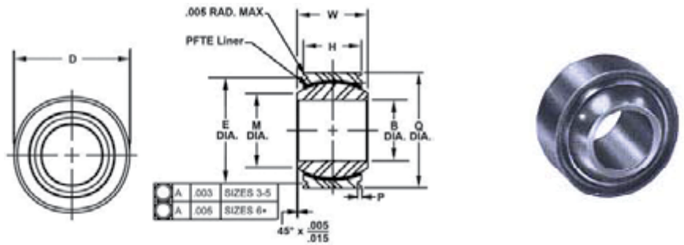
MS14102



Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Chamfered, Outer Ring

MS14102	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	Q MIN	W +.000 -.002	Static Limit Load (lbs) Radial	Static Limit Load (lbs) Axial	Oscillating Load (lbs)	No-Load Rotational Breakaway Torque Standard	No-Load Rotational Breakaway Torque "K" Type	WT. Lb. Max (Ref)
-4	.2500	.6250	.327	.300	15	.437	5500	1770	4900	0.25 - 5.0	0 - 0.5	.031
-5	.3125	.6875	.317	.360	14	.437	9400	1640	6050	0.25 - 8.0	0 - 1.0	.035
-6	.3750	.8125	.406	.46	8	.500	13700	2630	8310			.060

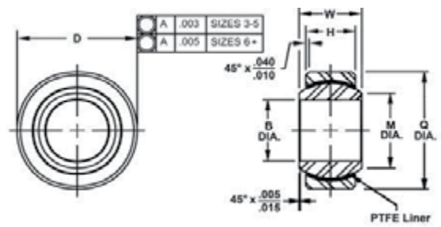
MS14103



Bearing, Self-Lubricating,
Self-Aligning, Wide,
Grooved Outer Ring

MS14103	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	P +.000 -.015	Q MIN	W +.000 -.002	E +.000 -.010	Static Limit Load (lbs) Radial	Static Limit Load (lbs) Axial	Oscillating Load (lbs)	No-Load Rotational Breakaway Torque Standard	No-Load Rotational Breakaway Torque "K" Type	WT. Lb. Max (Ref)
-4	.2500	.6250	.327	.300	.025	15	.437	.563	5500	1770	4900	0.25 - 5.0	0 - 0.5	.031
-5	.3125	.6875	.317	.360		14		.625	9400	1640	6050	0.25 - 8.0	0 - 1.0	.035
-6	.3750	.8125	.406	.466	.035	8	.500	.712	13700	2630	8310			.060
-10	.6250	1.1875	.567	.747		12	.750	1.087	29000	6130	20250			.160

MS14104

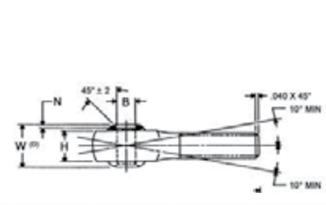




Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Chamfered Outer Ring

MS14104	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	Q MIN	W +.000 -.002	Static Limit Load (lbs) Radial	Static Limit Load (lbs) Axial	Oscillating Load (lbs)	No-Load Rotational Breakaway Torque Standard	No-Load Rotational Breakaway Torque "K" Type	WT. Lb. Max (Ref)
-3	.1900	.5625	.218	.293	10	.281	3975	150	1500	0.25 - 5.0	0 - 0.5	.020
-4	.2500	.6562	.250	.364	10	.343	6040	430	3320			.020
-5	.3125	.7500	.271	.419	10	.375	8750	700	5460	0.25 - 8.0	0 - 1.0	.030
-6	.3750	.8125	.312	.475	9	.406	10540	1100	6600			.040

MS21151

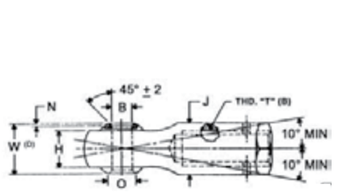




Bearing, Double Row
Rod End External Thread
Self-Aligning, Anti Friction
"C" After Dash #
Indicates Key Slot

MS21151	Bore Size Nom.	A ±.031	B +.0000 -.0003	C ±.031	D ±.010	E Nom. Radius	H ±.010	N +.015 -.000	O Min. Dia.	T Thread UNJF-31	W +.000 -.005
-2	#10	1.375	.1900	.750	.781	.422	.328	.005	.276	.1900-32RH	.437
-4	#10	1.375	.1900	.750	.781	.390	.328	.005	.276	.3750-24RH	.437
-6	#10	1.812	.1900	.938	.781	.562	.438	.005	.307	.2500-28RH	.500
-7	#10	1.563	.1900	1.00	.781	.344	.328	.005	.276	.2500-28RH	.437
-8	1/4	1.875	.2500	1.125	.938	.469	.438	.005	.340	.3750-24RH	.593
-9	1/4	1.875	.2500	1.125	.938	.469	.438	.005	.340	.3750-24LH	.593

MS21153





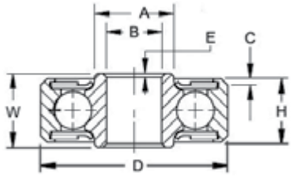
Bearing, Double Row
Internal Thread
Self-Aligning, Anti Friction
"C" After Dash #
Indicates Locking Slot

MS21153	Bore Size Nom.	A ±.031	B +.0000 -.0003	C ±.031	D ±.010	E Nom. Radius	H ±.010	J Dia. ±.010	K Bead or Hex Dia.	N +.015 -.000	O Min. Dia.	T Thread UNJF-31	W +.000 -.005
-1	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead.438	.005	.276	.2500-28RH	.437
-3	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead.438	.005	.276	.2500-28RH	.500
-5	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead.438	.005	.276	.2500-28LH	.437
-6	1/4	1.469	2500	.750	.938	.468	.436	.436	Hex .438	.005	.340	.3125-24RH	.593
-7	1/4	1.469	.2500	.750	.938	.468	.436	.436	Hex .438	.005	.340	.3125-24LH	.593

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS27640

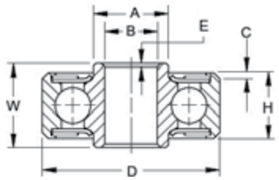


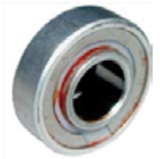


Airframe Bearing
Antifriction, Heavy Duty

MS Dash # MS27640	MFG. P/N	B BORE (b) +.0000 -.0005	D OUTSIDE DIAMETER (a) (b) +.0000 -.0005	W WIDTH INNER RING (a) +.000 -.005	H WIDTH OUTER RING (a) +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES	
											CASE I	CASE II
-3A	KP3L	.1900	.6250	.245	.203	.280	.005	.010	1880	900	1700	1450
-4	KP4	.2500	.9014	.484	.335	.390		.032	2680	1200	2410	2030
-5	KP5	.3125	1.2500	.558	.375	.469			5620	2500	4900	3970
-6	KP6	.3750	1.4375	.620	.469	.591	.015		7910	3500	6540	5410

MS27641

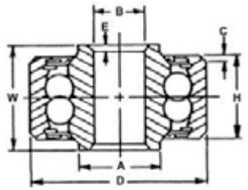




Airframe Bearing
Antifriction Intermediate Duty

MS Dash # MS27641	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)	
											CASE I	CASE II
-3	KP3A	.1900	.6250	.297	.234	.297	.005	.016	1560	700	1500	1250
-4	KP4A	.2500	.7500	.281	.219	.380	.005	.016	1880	900	1690	1450
-5	KP5A	.3125	.8125	.297	.234	.415	.015	.016	2190	1000	1820	1600
-6	KP6A	.3750	.8750	.313	.250	.495	.015	.016	2500	1100	1920	1710
-8	KP8A	.5000	1.125	.375	.313	.616	.015	.016	3910	1700	2870	2550
-10	KP10A	.6250	1.375	.406	.344	.768	.015	.032	6700	3000	4980	4360

MS27643



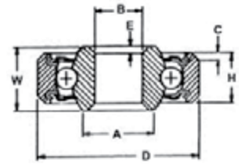


Airframe Bearing
Antifriction, Self-Aligning
Light and Heavy Duty

MS Dash # MS27643	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)		AXIAL PLAY INCH MAX
											CASE I	CASE II	
-3	DSP3	.1900	.7774	.500	.392	.304	.005	.022	1420	200	1420	1220	.0055
-4	DSP4	.2500	.9014	.687	.454	.430	.005	.032	1780	300	1780	1600	.0055
-5	DSP5	.3125	1.250	.812	.656	.515	.015	.032	3740	600	3740	3300	.0060

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

MS27645

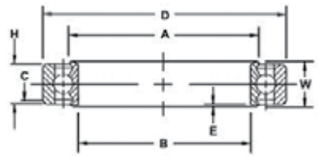




Airframe Bearing
Antifriction, Self-Aligning
Light and Heavy Duty

MS Dash # MS27645	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)		AXIAL PLAY INCH MAX
											CASE I	CASE II	
-3A	KSP3L	.1900	.6250	.245	.303	.253	.005	.016	550	100	550	480	.023
-4A	KSP4A	.2500	.7500	.281	..219	.321	.005	.016	900	200	900	770	.025
-5A	KSP5A	.3125	.8125	.297	..234	.381	.015	.016	1000	200	950	815	.028
-6A	KSP6A	.3750	.8750	.313	.250	.453	.016	.016	1120	200	1120	990	.030
-3	KSP3	.1900	.7774	.297	.270	.290	.005	.022	900	200	900	770	.023
-4	KSP4	.2500	.9014	.484	.335	.390	.005	.032	1410	300	1230	1230	.025
-5	KSP5	.3125	1.250	.558	.375	.561	.015	.032	2190	300	2190	1890	.028
-6	KSP6	.3750	1.438	.620	.469	.607	.015	.032	2980	400	2980	2580	.030

MS27646

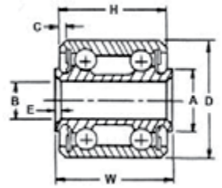




Airframe Bearing
Antifriction, Extra Light Duty

MS Dash # MS27646	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E AND C CORNER CHAMFER x 45° (c) (b) +.020 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)	
									CASE I	CASE II
-38	.6250	1.065	.281	.250	.777	.015	3280	1500	1990	1820
-39	.7500	1.1875	.281	.250	.895	.015	3750	1700	2050	1900
-41	1.0625	1.5000	.281	.250	1.216	.015	5000	2200	2170	2020

MS27647



Without lubrication groove



With lubrication groove



Airframe Bearing
Antifriction, Self-Aligning
Light and Heavy Duty

MS Dash # MS27647	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)	
										CASE I	CASE II
-4A	.2500	.6250	.562	.500	.338	.005	.016	1400	500	1050	960
-4	.2500	.7500	.875	.750	.372	.005	.016	2700	900	2070	1850
-5	.3125	.8750	.938	.813	.466	.005	.016	5140	1600	2600	2320
-6	.3750	1.063	1.188	1.063	.570	.005	.016	8440	2600	4220	3740
-8	.5000	1.438	1.500	1.375	.709	.005	.032	15520	4700	7610	6520

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

DOW CORNING SILICONE SEALANT

Multi-purpose RTV Sealant



Part #	Color
RTV732-CLR-3OZ	Clear
RTV732-WHI-3OZ	White
RTV732-BLK-3OZ	Black

MOMENTIVE SILICONE SEALANTS *(Formerly GE)*

Available in 3 Colors



Part #	Color
RTV102-WHI-3OZ	White
RTV103-BLK-3OZ	Black
RTV108-CLR-3OZ	Clear

AVBLEND

Micro-lube Oil Supplement
4 cylinder engines require 1 can per oil change, 6 cylinder engines require 2.



Part #	Size
AVBLEND	12 oz. Can

CRC SILICONE SEALANTS

For general-purpose sealing, bonding, protecting, & waterproofing. White is for high moisture, indoor/outdoor applications. Clear forms a barely visible, water-tight seal.



Part #	Color
RTV-WHI-8OZ	White
RTV-CLR-8OZ	Clear

20214

Plexus ™ Anti-Static Plastic Cleaner, Protectant, & Polish
13 Oz. Aerosol Can



PHF204

Prist® Hi-Flash ™ Hi-Flo™ Anti-Icing Aviation Fuel Additive
20 Oz. Can
MIL-I-85470



PGC13

Prist® Acrylic, Plastic, and Glass Cleaner
13 Oz. Aerosol Can
MIL-P-008184D



LPS PRODUCTS

11 oz. Aerosol Cans



Part #	Product
LPS-1	LPS-1 - Greaseless Lubricant
LPS-2	LPS-2 - Industrial Strength Lubricant
LPS-3	LPS-3 - Rust Inhibitor

LPS PRODUCTS

Cleaners & Anti-seize
15 oz. Cans



Part #	Product
01420	LPS PreSolve ® - Orange Degreaser (15 oz.)
02908	LPS Copper Anti-Seize (1/2 lb. Can)
03520	LPS ZeroTri ® - Heavy Duty Degreaser (15 oz.)
04016	LPS NoFlash ® - Electro Contact Cleaner (15 oz.)

AEROSHELL GREASE

Aviation Grease
14 oz. Cartridges



Part Number
AEROSHELL 5 GREASE
AEROSHELL 6 GREASE
AEROSHELL 7 GREASE

MOBIL GREASE 28

Aviation Grease
13.7 oz. Cartridge



Part Number
MOBIL GREASE 28

ROYCO 22 CF

Aviation Grease
14 oz. Cartridge



Part Number
ROYCO 22 CF (14oz)

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

TEMPO AIRCRAFT ENAMEL

Recommended for Interior and Exterior Aluminum or Steel Surfaces



Product	Part #
Black	A1100
Flatblack	A1102
Medium Gray	A1105
Gloss White	A1109
Red	A1120

TEMPO ZINC PHOSPHATE PRIMERS

For bare Aluminum and Steel - 11 oz. Cans



Product	Part #	Old #
Yellow - Primer	A701	A7-6889
Green - Primer	A702	A7-6889A

LACING CORD

MIL-T-43435B
Black, Type 1



NAS1756-24

Warning Streamer



ID PLATE

MS27253-1



TEMPO AIRCRAFT ENGINE ENAMEL

16 oz. Spray Cans



Product	Part #
Lycoming Gray	A219
Continental Gold	A239
Gloss Black	A241

TEMPO EPOXY PROPELLER COATING

12 oz. Cans



Product	Part #
Flat Black	A150
Medium Gray	A151
White	A152

CORROSION X

Part # 80101
Corrosion Inhibitor
16 oz. Cans



BRAKE LINING RIVET

105002-00



CLEVELAND BRAKE PADS



New #	Old Part #
066-10500	066-105
	66-30

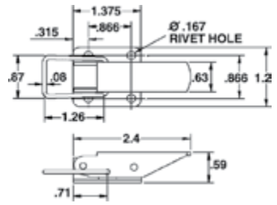
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

DZUS LATCHES

TL800A
Steel, Zinc Plated with Yellow Finish
Working Strength 300 Lbs.

TL800ASS
Stainless Steel
Working Strength 300 Lbs.

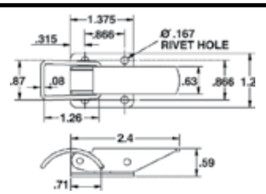




TL800G
Steel, Zinc Plated with Yellow Finish
Working Strength 100 Lbs.

TL800GSS
Stainless Steel
Working Strength 100 Lbs.

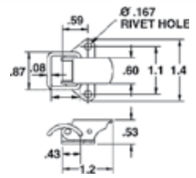




TL803B
Steel, Zinc Plated with Yellow Finish
Working Strength 45 Lbs.

TL803BSS
Stainless Steel
Working Strength 45 Lbs.

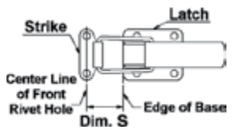




TL800-7
Steel, Zinc Plated with Yellow Finish
Strike

TL800-7SS
Stainless Steel Strike





SOUTHCO LATCHES

37-10-051-20
37-10-061-20
Black Rubber Handle
Keeper and Bracket 302 Stainless Steel
Rivet 5056 Aluminum
37-10-061-10
Black Rubber Handle
Keeper and Bracket 1010 Steel, Zinc Plate
Chromate Plus Sealer

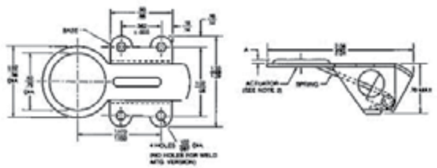


Dash#	Length	Height	Bracket Width
-051-	2-1/16	11/16	9/16
-061-	2-11/16	3/4	45/64

CAMLOC LATCHES

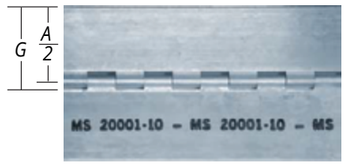
KM 610 SERIES
Latch Mounts Flush with Panel
Finger Touch Release For Easy Opening
Slam Close to Lock
Flush Mount for Panel Thickness
.032, .051 and .064 Inches
KM610-32, KM610-51, KM610-64





MS20001

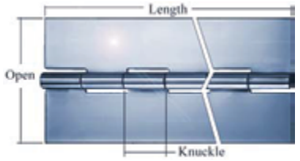
Hinge,
Structural
Extruded
6 Ft. Length



MS20001	A WIDTH	THICKNESS		G	
		MAX	MIN	MAX	MIN
-2	1.062	.056	.044	.630	.612
-3	1.250			.724	.706
-4	1.500			.850	.830
-5	1.750			.975	.955
-6	2.000			1.102	1.078

MS20257

Hinge, Continuous
(P) Anodized Aluminum
(C) Corrosion Resistant
6 Ft. Length



MS20257 7200 ALUMINUM		CRES	A WIDTH (OPEN)	THICKNESS	
				AL ALLOY	CRES
-1	P1	C1	.750	.032	.031
-2	P2	C2	1.062	.040	.037
-3	P3	C3	1.250		.050
-4	P4	C4	1.500		.062
-5	P5	C5	2.000	.051	
-6	P6	C6	2.000	.064	

MS20253

Hinge Pin, 6 ft.
Passivated



Diameter	MS20253
.062	1-7200
.089	2-7200
.117	3-7200
.179	4-7200
.129	5-7200

MS20253P

Hinge Pin, 6 ft.
Cad Plated



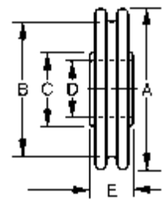
Diameter	MS20253
.062	P1-7200
.089	P2-7200
.117	P3-7200
.179	P4-7200
.129	P5-7200

**** * UPS imposes a handling fee for hinges. * ****
Please consider longer term usage when ordering hinges to reduce your per each cost.

AIRCRAFT PULLEYS

MS20219 *- Secondary Control Pulley*
MS20220 *- Flight Control Pulley*
MS24566 *- Anti-friction Bearing, Control Pulley*



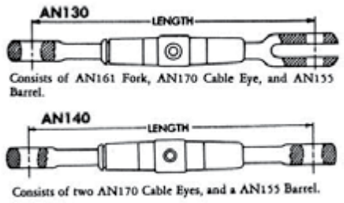


Pulley	Cable Size	A Dia.	B Dia.	C Dia.	D Dia.	E Dia.	Allowable Load Limit (Lbs.)
MS20219-1	1/16, 3/32	1.312	1.000	.373	.2500	.438	480
MS20219-2	1/16, 3/32	1.750	1.438	.423	.2500	.438	480
MS20219-3	1/16, 3/32	1.750	1.438	.769	.6250	.438	480
MS20219-4	1/16, 3/32	2.625	2.312	.423	.2500	.438	920
MS20220-1	1/8, 5/32, 3/16	1.750	1.255	.465	.3125	.625	500
MS20220-2	1/8, 5/32, 3/16	3.000	2.500	.474	.3125	.625	1680
MS20220-3	1/8, 5/32, 3/16	4.250	3.750	.474	.3125	.625	2500
MS20220-4	1/8, 5/32, 3/16	5.500	5.000	.474	.3125	.625	2500
MS24566-1B	1/16, 5/64, 3/32	1.250	.972	.297	.1900	.297	185
MS24566-2B	1/16, 5/64, 3/32	2.500	2.222	.332	.1900	.297	500
MS24566-3B	1/8, 5/32, 3/16	2.000	1.510	.390	.2500	.484	450
MS24566-4B	1/8, 5/32, 3/16	3.500	3.010	.390	.2500	.484	1200
MS24566-5B	3/16, 1/4	5.000	4.374	.591	.3750	.625	2000

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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COMPLETE TURNBUCKLE ASSEMBLIES



MS21260

(AN669)
Stud Terminal, Long Wire Rope



MS21260		Length	Thread	Cable Dia. (In.)
Left	Right			
-L2LH	-L2RH	3.67	6-40	1/16
-L3LH	-L3RH	3.86	10-32	3/32
-L4LH	-L4RH	4.28	1/4-28	1/8
-L5LH	-L5RH	4.66	1/4-28	5/32
-L6LH	-L6RH	4.78	5/16-24	3/16

MS20663C

Ball and Double Shank



MS20663	Cable Dia. (In.)	Minimum Breaking Strength	Hole Size (In.)
C2	1/16	480	.073
C3	3/32	920	.104
C4	1/8	2,000	.139
C5	5/32	2,800	.169
C6	3/16	4,200	.201

MS20667

(AN667)
Fork End



MS20667	Length	Cable Dia. (In.)	Pin Hole Dia (In.)
-2	1.572	1/16	.190
-3	1.945	3/32	.190
-4	2.352	1/8	.190
-5	2.655	5/32	.250
-6	3.071	3/16	.313

MS21251

(AN155)
Turnbuckle Barrel



MS21251 Dash #	AN155 Dash #	Thread	Length (In.)	Dia.
-B2S	8S	6-40	2 1/4 4	.250
-B2L	8L			
-B3S	16S	10-32	2 1/4 4	.344
-B3L	16L			
-B5S	32S	1/4-28	2 1/4 4	.438
-B5L	32L			
-B6S	46S	5/16-24	2 1/4 4	.500
-B6L	46L			

MS21260

(AN669)
Turnbuckle End Short



MS21260		Length	Thread	Cable Dia. (In.)
Left	Right			
-S2LH	-S2RH	2.79	6-40	1/16
-S3LH	-S3RH	2.98	10-32	3/32
-S4LH	-S4RH	3.40	1/4-28	1/8
-S5LH	-S5RH	3.78	1/4-28	5/32
-S6LH	-S6RH	3.90	5/16-24	3/16

MS20664C

Ball and Shank Cable End



MS20664	Cable Dia. (In.)	Minimum Breaking Strength	Hole Size (In.)
C2	1/16	480	.073
C3	3/32	920	.104
C4	1/8	2,000	.139
C5	5/32	2,800	.169
C6	3/16	4,200	.201

MS20668

(AN668)
Eye End



MS20668	Length	Cable Dia. (In.)	Pin Hole Dia (In.)
-2	1.80	1/16	.190
-3	2.16	3/32	.190
-4	2.60	1/8	.190
-5	3.00	5/32	.250
-6	3.19	3/16	.313

MS21252

(AN161)
Turnbuckle Fork



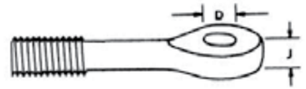


MS Dash #	AN161	Thread	Length	Cable	G	D
MS21252-2RS MS21252-2LS	AN161-8RS AN161-8LS	6-40	1.500 1.500	1/16	.109	.190
MS21252-3RS MS21252-3LS	AN161-16RS AN161-16LS	10-32	1.625 1.625	3/32	.156	.190
MS21252-4RS MS21252-4LS	AN161-22RS AN161-22LS	1/4-28	1.844 1.844	1/8	.195	.190
MS21252-5RS MS21252-5LS	AN161-32RS AN161-32LS	1/4-28	1.844 1.844	1/8 or 5/32	.218	.250

MS21254

(AN165)
Pin Eye
1st Letter Following Dash # Indicates Right or Left.





MS Dash #	AN165	Thread	Length	Cable Dia.	J	D
MS21254-2RS MS21254-2LS	AN165-8RS AN165-8LS	6-40	1.500 1.500	1/16	.125	.190
MS21254-3RS MS21254-3LS	AN165-16RS AN165-16LS	10-32	1.625 1.625	3/32	.188	.190
MS21254-5RS MS21254-5LS	AN165-32RS AN165-32LS	1/4-28	1.750 1.750	5/32	.219	.250

MS21255

(AN170)
Cable Eye
1st Letter Following Dash # Indicates Right or Left.
Last Letter Indicates Short or Long.





MS Dash #	AN170	Thread	Length	Cable	J	D
MS21255-2RS MS21255-2LS	AN170-8RS AN170-8LS	6-40	1.500 1.500	1/16	.125	.188
MS21255-3RS MS21255-3LS	AN170-16RS AN170-16LS	10-32	1.625 1.625	3/32	.188	.219
MS21255-5RS MS21255-5LS	AN170-32RS AN170-32LS	1/4-28	1.750 1.750	5/32	.219	.281

MS21259





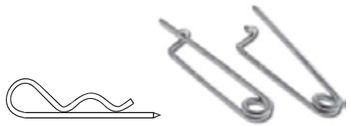
Stud End

Right Hand Thread	Left Hand Thread	Length	Thread Size	Cable Dia. (In.)
MS21259-2RH	MS21259-2LH	2.65	6-40	1/16
MS21259-3RH	MS21259-3LH	3.00	10-32	3/32
MS21259-4RH	MS21259-4LH	3.59	1/4-28	1/8
MS21259-5RH	MS21259-5LH	3.79	1/4-28	5/32
MS21259-6RH	MS21259-6LH	4.002	5/16-24	3/16

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AN415
AN416



Locking Pins

Part #	Dash #	Wire Dia.	Length
	AN415		*AN416*
AA55487-2	AN415-2	.080	1-15/16
AA55487-3	AN415-3	.0295	1-9/32
AA55488-1	AN416-1	.051	1-1/16
AA55488-2	AN416-2	.041	3/4

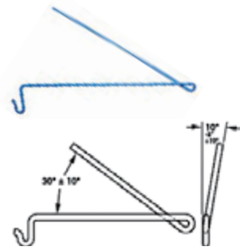
AN100



Cable Thimble

To Fit Cable Dia.	Steel Part#	Stainless Part #
1/16-5/64	AN100-3	AN100C3
3/32-1/8	AN100-4	AN100C4
5/32	AN100-5	AN100C5
3/16	AN100-6	AN100C6

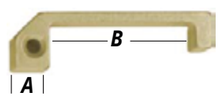
MS21256



Locking Clip
Stainless Steel
Sold in 50 or 100 Quantities

MS21256	Length
1	1.078
2	1.955
3	2.015

NAS559



Lock Rod-End

NAS559	Thread O.D.	A	B
1	1/4 & 5/16	.036	.250
2	3/8	.036	.281
3	7/16 & 12	.049	.344

COPPER SLEEVE
MS51844



18- Unplated Copper
28 - Plated Copper

To Fit Cable Dia.	Unplated		Plated	
	MS51844	Mfr.#	MS51844	Mfr.#
1/16	-42	18-1-C	-22	28-1-C
3/32	-43	18-2-G	-23	28-2-G
1/8	-44	18-3-M	-24	28-3-M
5/32	-45	18-4-P	-25	28-4-P

CONTROL CABLE

Per MIL-W83420

Stainless Steel

7 X 7 Cable	Max. Strength (Lbs.)
1/16 DIA.	480
3/32 DIA.	920
7 X 19 Cable	**Max. Strength (Lbs.)**
1/16 DIA.	480
3/32 DIA.	920
1/8 DIA.	1700
5/32 DIA.	2400

Close-up view of 7x7 cable



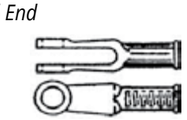
Close-up view of 7x19 cable







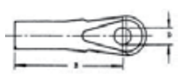
MS27975
Clevis Rod End





MS27975	Type Fork	Hole Dia.	Ultimate Axial Load
1	WIDE	.250	3800 lbs.
2	NARROW	.250	2850 lbs.
3	WIDE	.188	4700 lbs.
4	NARROW	.188	3500 lbs.

AN665
Clevis Type Tie Rod

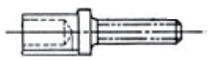




PART #	Thread	D Dia	B Length
AN665-21R	10-32	.190	1.537
AN665-34R	1/4-28	.250	1.813
AN665-46R	5/16-24	.313	1.875

AN490HT
Rod End
Threaded





Part #	Thread	Diameter	Tube Size
AN490HT6P	1/4-28	.375	3/8
AN490HT8P		.500	1/2

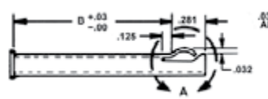
AN115
Shackle



Part #	A Diameter	Strength
AN115-8	.188	800 lbs.
AN115-16	.188	1600 lbs.
AN115-21	.188	2100 lbs.
AN115-32	.250	3200 lbs.

NAS427
Pulley Guard Pin





NAS427K	Length	NAS427K	Length
-6	.38	-18	1.12
-9	.56	-20	1.25
-10	.62	-21	1.31
-11	.69	-24	1.50
-12	.75	-26	1.62
-13	.81	-34	2.12
-14	.88	-42	2.62
-16	1.00	-46	2.88

MS20995
Safety Wire

Wire Dia.	Corrosion Resistant (C)	Copper (CU)	Nickel-Copper Alloy (N)
	MS20995	MS20995	MS20995
.020	C20	CU20	N20
.021	C21	CU21	N21
.025	C25	CU25	N25
.032	C32	CU32	N32
.040	C40	CU40	N40
.041	C41	CU41	N41



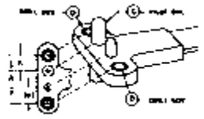
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

PLATE NUT DRILL JIGS

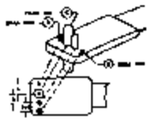
DRILL SIZE #40

ONE LUG NUT PLATE



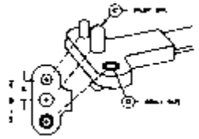
Part No.	Bolt Size Ref.	A	C
AIT518G	#6	.344	.139
AIT518H	#8	.344	.164
AIT518J	#10	.344	.191
AIT518K	1/4"	.344	.248

ONE LUG NUT PLATE
(Miniature)



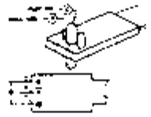
Part No.	Bolt Size Ref.	A	C
AIT518-PA	#4	.203	.122
AIT518-PB	#6	.218	.139
AIT518-PC	#8	.234	.164
AIT518-PD	#10	.250	.191
AIT518-PE	#1/4"	.281	.248

TWO LUG NUT PLATE



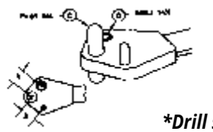
Part No.	Bolt Size Ref.	A	C
AIT518A	#6	.344	.688
AIT518B	#8	.344	.688
AIT518C	#10	.344	.688
AIT518D	1/4"	.500	1.000

TWO LUG NUT PLATE
(Miniature)



Part No.	Bolt Size Ref.	A	C
AIT518-NA	#4	.203	.122
AIT518-NB	#6	.218	.139
AIT518-NC	#8	.234	.164
AIT518-ND	#10	.250	.191
AIT518-NE	#1/4"	.281	.248

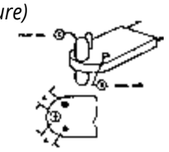
CORNER NUT PLATE



***Drill size #30**

Part No.	Bolt Size Ref.	A	C
AIT518S	#8	.344	.164
AIT518T	#10	.344	.191
AIT518U	1/4"	.500	.248
AIT518V*	5/16"	.500	.372

CORNER NUT PLATE
(Miniature)



Part No.	Bolt Size Ref.	A	C
AIT518-SA	#4	.203	.122
AIT518-SB	#6	.218	.139
AIT518-SC	#8	.234	.164
AIT518-SD	#10	.250	.191

STRAP DUPLICATORS - LENGTH 6-1/4"

BUSHING TYPE



INVERTED TYPE

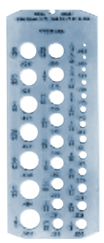


PUNCH TYPE



Part No.	Size	Part No.	Size	Part No.	Size
TPMM250-1	#40	TPMM255-1	#40	TPMM260-1	#40
TPMM250-2	#30	TPMM255-2	#30	TPMM260-2	#30
TPMM250-3	#21	TPMM255-3	#21	TPMM260-3	#21
TPMM250-5	#10	TPMM255-5	#10	TPMM260-5	#10
TPMM250-7	#F	TPMM255-7	#F		

PRECISION DRILL GAUGE



TP565A
Fractional size gauge 1/16" to 1/2" in 64ths.

TP565B
Drill & tap gauge #1 to #60, including table for tap size, tap drill & body drill for machine screws from 2-56 to 1/4"-28.

TP565C
Letter A-Z size gauge

UNIBIT ®DRILL

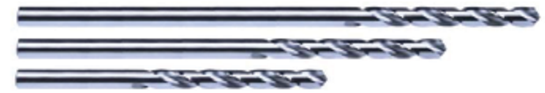


High Speed Steel, 1/4" Shank
Drills through metal and plastic
Automatically de-burrs drilled hole

Part #	Number of Hole Sizes	Hole Sizes	Step Depth	Shank Size
TPA5610	9	1/4" to 3/4"	1/16"	3/8
TPA5611	13	1/8" to 1/2"	1/32"	1/4
TPA5612	6	3/16" to 1/2"	1/16"	1/4

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

AIRCRAFT DRILL BITS



Per NAS907 Specifications,
Cobalt Extension Drill Bits,
High Speed Steel Extension Drill Bits

COBALT				HIGH SPEED STEEL
Jobbers Length		Aircraft Extension Bits 6" Overall Length		Jobbers Length
SIZE	PART#	SIZE	PART#	R18A
#10	01-010	#10	05-209	#10
#16	01-016	#16	05-215	#16
#20	01-020	#20	05-219	#20
#21	01-021	#21	05-220	#21
#27	01-027	#27	05-226	#27
#30	01-030	#30	05-229	#30
#40	01-040	#40	05-239	#40
SIZE	PART#	SIZE	PART#	R10A
3/32	02-063	3/32	04-102	3/32
1/8	02-065	1/8	04-104	1/8
5/32	02-067	5/32	04-106	5/32
3/16	02-069	3/16	04-108	3/16
1/4	02-073	1/4	04-112	1/4

Drill Bit Manufacturer's Part Number may vary throughout the year.

INSERT BITS - PHILLIPS

440-#



1/4" Hex Insert

Point Size	Part#	Point Size	Part#
1	440-1X	1	446-1X
2	440-2X	2	446-2X
3	440-3X	3	446-3X

446-#



1/4" Hex Insert, Limited Clearance

TORQ-SET



1/4" Hex Shank, Overall Length 1"

Point Size	Part#
2	212-2
3	212-3
4	212-4
6	212-6
8	212-8
10	212-10



1/4" Power Bit

Part#	Length	Point Size
491X	1-15/16	1
492X	1-15/16	2
493X	1-15/16	3
491AX	2-1/2	1
492AX	2-1/2	2
493AX	2-1/2	3

INSERT BITS - TRIWING



1/4" Hex Insert, Overall Length 1"

Point Size	Part#
#4	TWD-2
#6	TWD-3
#8	TWD-4
#10	TWD-5

POWER BIT



1/4" Hex Insert, Overall Length 1 1/4"

Point Size	Part#
#4	TW-2
#6	TW-3
#8	TW-4
#10	TW-5



1/4" Hex Shank, Overall Length 2 3/8"

Point Size	Part#
#4	TW-2-2 3/8
#6	TW-3-2 3/8
#8	TW-4-2 3/8
#10	TW-5-2 3/8

CLECO FASTENERS



STANDARD				SIDE CLAMP			
Part #	Color Code	Diameter	Drill Size	Part #	Gap	Reach	Length
C-3/32	ZINC	3/32	#40	CSG 1/2 x 1/2	1/2	1/2	2-3/16
C-1/8	COPPER	1/8	#30	CSG 3/4 x 1/2	3/4	1/2	2-7/16
C-5/32	BLACK	5/32	#20	CSG 1/2 x 1	1/2	1	2-3/16
C-3/16	BRASS	3/16	#10	CSG 3/4 x 1	3/4	1	2-7/16

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

THREADED SHANK TAPER ROUTER BITS



Part Number	Size	Small End Diam.	Length
15-305	1	.0810	1-1/4"
15-306	2	.1100	1-1/4"
15-307	3	.1650	1-1/4"

AEROSPACE TAPS



Part Number	Description	Part Number	Description
23-408	6/32 Taper	23-413	8/32 Bottom
23-409	6/32 Plug	23-417	10/32 Taper
23-410	6/32 Bottom	23-418	10/32 Plug
23-411	8/32 Taper	23-419	10/32 Bottom
23-412	8/32 Plug		

A/C TAPER ROUTER

Hi-speed R.H. Helix, R.H. Cut
Taper - 1/4 per ft.



Part Number	Size	Shank Dia.	Nom. Dia. Small End	Flute End (Inches)	Overall Length
15-301	1	.0980	.0810	13/16"	2"
15-302	2	.1280	.1100	7/8"	2-1/4"
15-303	3	.1875	.1650	1-1/16"	2-1/2"
15-304	4	.2500	.2240	1-1/4"	2-3/4"

HSS STOP COUNTERSINKS 82°

Three Flute, Integral Pilot
1/4-28 Threaded Shank



Part Number	Size	Decimal Equivalent	Part Number	Size	Decimal Equivalent
18-038	#40	.0980	18-045	3/16	.1875
18-042	#30	.1280	18-048	#13	.1850
18-021	#27	.1440	18-044	#10	.1935
18-043	#21	.1590	18-027	1/4	.2500

STEP DRILLS

Titanium Nitride coated



Part Number	Size	Number of Hole Size	Hole Sizes	Shank Size	Step Depth
38-301Tin	1	13	1/8 to 1/2	1/4	1/8
38-302Tin	2	6	3/16 to 1/2	1/4	3/8
38-303Tin	3	9	1/4 to 3/4	1/8	1/8
38-304Tin	4	12	3/16 to 7/8	1/8	1/8

DRILL STOPS

Reduces drill breakage by controlling depth of drilled hole.



Part Number	Drill Size	Hole Diameter	Color
30-635	#40	.099	Zinc
30-636	#30	.130	Copper
30-633	#27	.146	Zinc
30-639	#21	.161	Black
30-641	#10	.195	Brass

COBALT STOVE BURNER DRILLS

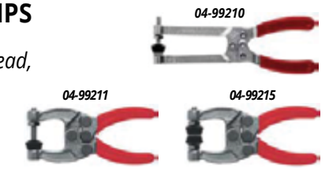
NAS937, Jobber Length M 42
8% Cobalt, 135° Split Point



Part Number	Drill Size	Decimal Equivalent	Flute Length	Overall Length
13-SB10	#10	.1935	2-7/16"	3-5/8"
13-SB16	#16	.1770	2-3/16"	3-3/8"
13-SB21	#21	.1590	2-1/8"	3-1/4"
13-SB27	#27	.1440	1-7/8"	3"
13-SB30	#30	.1285	1-5/8"	2-3/4"
13-SB40	#40	.0980	1-3/8"	2-3/8"

TOGGLE CLAMPS

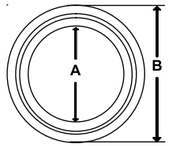
Squeeze Action,
1/4-20 Spindle Thread,
Neoprene Spindle



Part Number	Holding Capacity	Jaw Reach	Jaw Gap	Overall Length
04-99210	100 lbs.	2-5/16"	1-1/16"	6-7/8"
04-99211	200 lbs.	1-1/4"	1-1/16"	4-5/16"
04-99215	200 lbs.	1-1/4"	1-1/16"	4-5/16"

MS35769 *(AN900)*

Gasket - Copper, Annular





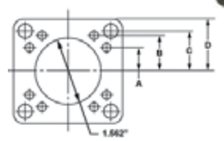
MS35769	AN900	A Dia	B Dia	Thickness	MS35769	AN900	A Dia	B Dia	Thickness
2	4	1/4	1/2	3/32"	20	15	15/16	1-3/16	3/32"
5	5	5/16	9/16	3/32"	21	16	1	1-1/4	3/32"
6	6	3/8	5/8	3/32"	24	17	1-1/16	1-5/16	3/32"
8	7	7/16	11/16	3/32"	26	18	1-1/8	1-3/8	3/32"
9	8	1/2	3/4	3/32"	29	19	1-3/16	1-7/16	3/32"
10	9	9/16	13/16	3/32"	31	20	1-1/4	1-1/2	3/32"
11	10	5/8	7/8	3/32"	35	22	1-3/8	1-5/8	3/32"
12	---	5/8	1	5/64"	39	24	1-1/2	1-3/4	3/32"
13	11	11/16	15/16	3/32"	42	26	1-5/8	1-7/8	3/32"
15	12	3/4	1	3/32"	46	27	1-11/16	1-15/16	3/32"
17	13	13/16	1-1/16	3/32"	48	28	1-3/4	2	3/32"
18	14	7/8	1-1/8	3/32"	51	29	1-13/16	2-1/16	3/32"

AS3491-01 *(MS9134-01)*

Gasket - Engine Accessory Drive



AS3491-01	
A	0.562"
B	0.844"
C	0.938"
D	1.219"

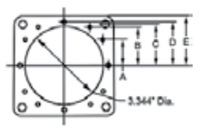


AS3492-01 *(MS9135-01)*

Gasket - Engine Accessory Drive

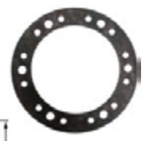


AS3492-01	
A	1.109"
B	1.656"
C	1.768"
D	1.875"
E	2.112"

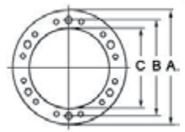


AS3493-01 *(MS9136-01)*

Gasket - Engine Accessory Drive



AS3493-01	
A Dia.	6.000"
B Dia.	5.000"
C Dia.	4.188"



AN901



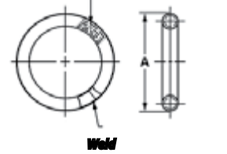
Tube O.D.	AN901	AN901
1/4	4A	4C
5/16	5A	5C
3/8	6A	6C
1/2	8A	8C
5/8	10A	10C
3/4	12A	---
1	16A	---

MS9371
MS9372

Gasket, Corrosion & Heat Resistant Steel Tubing, Silver Plated



Part #	A	Tube Size
MS9371-07	.375	.034 - .037
MS9371-11	.500	.034 - .037
MS9371-16	.812	.034 - .037
Part #	**A**	**Tube Size**
MS9372-016	.531	.061 - .064
MS9372-017	.562	.061 - .064
MS9372-019	.625	.061 - .064
MS9372-021	.688	.061 - .064



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ALUMINUM SNIPS

TP792 *(12" O.A.L., 1 lb)*
TP793 *(14" O.A.L., 1.31 lbs.)*



- Strong & Lightweight with inlaid steel blades
- Resharpenable blades that replace easily when necessary
- Baked enamel finish
- Cuts both straight and curves

FLUTING PLIERS

TP722



- .40 lb.
- Polished mechanical jaws
- Forged steel construction and hardened cushion grip handles
- Ideal for kit builders
- 9-1/2 length

POP RIVET TOOL

PS15-CS



- Installs Pop Rivets up to 3/16" Dia.
- Durable and Heavy Duty

AVIATION SNIPS COMBINATION



TP51K *(12" O.A.L., 1 lb)*

- Buy all three pieces and save
- This unique lightweight design allows cutting to be fast and easy

TP51 • Cuts left, red grips, .80 lb.
TP52 • Cuts right, green grips, .80 lb.
TP53 • Cuts straight, yellow grips, .80 lb.

IDENTIFICATION PLATES

MS27253

- Plain dash # for aluminum.
- C before dash for corrosion-resistant steel.
- F before dash for aluminum foil decal.
- P before dash for plastic plate.



Dash #	Total Length L	Total Spaces S	Top Length T
-1	1-5/8"	3	1-1/8"
-2	3"	11	1-1/8"
-3	1-3/4"	3	1-1/4"
-4	3"	10	1-1/4"

RIVET NUT TOOL

CN/12



- Installs Aluminum Rivet Nuts Sizes 6-32, 8-32, 10-32, 10-24, & 1/4
- Able to change mandrels quickly

CHERRYMAX/CHERRYLOCK RIVETING TOOLS

CHERRY HAND RIVETER

G27

- Lightweight hand riveter
- Can install most aluminum Cherrymax blind rivets up to 1/8" diameter
- Includes pulling head
- Rugged plastic case

G29

- Lightweight, compact
- Installs Cherry nutplate rivets
- Equipped with 728A9-3 nose piece to install 3/32 rivets
- Can install 1/8 rivets with 728A9-104 nose piece also included



CHERRY RIVET GAUGE

269C3



CHERRY PNEUMATIC RIVETER

G747



- Lightweight, ergonomic
- Air powered
- Installs -4, -5 and -6 dia. Cherrymax rivets
- Can install 3/32" nutplate rivets with H747-3NPR pulling head
- Sold without pulling head

FOR INSTALLING 1/8", 5/32" & 3/16" CHERRYMAX RIVETS



H701B-456 STRAIGHT
- For use with G747 Riveters

H753A-456 RIGHT ANGLE
- For use with G747 Riveters

H781-456 OFFSET
- For use with G747 Riveters

SAFETY WIRE TWISTERS

TP68SR



- Three-in-one tool: Plier, Twister & Cutter
- Automatic Spring Return

NICOPRESS SLEEVE SWAGING TOOL

HS-5



- Swaging sizes 1/16, 3/32 1/8, 5/32, 3/16

DZUS TOOLING

- For replacement of Dzus studs with grommets
- Will not set winged studs

Part#	Stud
TP835A	A1#3
TP835B	A1#4
TP835C	F1#4
TP835D	A1#5
TP835E	F1#5



CLECO PLIERS

TP74 & TP74V



- Installs 3/32, 1/8, 5/32, 3/16 Clecos

WRENCH TYPE RIVET NUT HEADER

L845 *Old # C845*



- For Field Repair
- Mandrels available for sizes 4-40, 6-32, 8-32, 10-32
- Mandrel Part # 60-1000(thread size)

SWAGING TOOL

TP64



- Swages 1/16, 3/32, 1/8 cable
- Wrench used to tighten bolts

FELCO CABLE CUTTERS

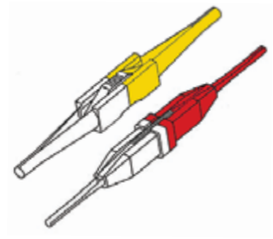
C-7



- Cutter up to 3/16 diameter cable
- Cuts clean and leaves no frayed ends

EXTRACTING TOOLS

Part #
M81969/1-01
M81969/1-02
M81969/14-01
M81969/14-02
M81969/14-03
M81969/14-04
M81969/14-10
M81969/14-11



CAMLOC PLIERS

4P3



- Installs 2600, 2700, 4002 Series Camlocs

RIVET CUTTER

TP96



- Cuts 3/32 to 1/4
- Hardened cutting edges
- Rubber Grips

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

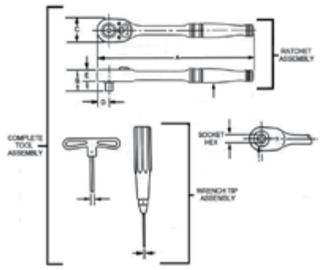
⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

HI-LOK INSTALLATION/REMOVAL TOOLS

HI-LOK TOOL ASSEMBLY

ATHA - Tool kit Part # - which contains Ratchet, Socket, & Hex Key.
ATHS - Socket Part #
ATRR250 - Ratchet ¼ " Sq. Drive
ATHK062 - Hex Key Part #



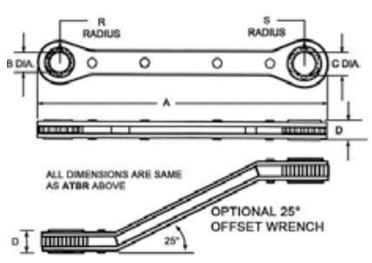


Socket Hex	Socket Part #	Ratchet Dimensions A	B	C	D	E	Ratchet Part #	Hex Key Size	Hex Key Part #	Complete Assembly Part #
3/16"	ATHS187	5"	1-1/4"	15/64"	7/16"	3/8"	ATRR250	1/16"	ATHK062	ATHA1
7/32"	ATHS218									ATHA2
1/4"	ATHS250									ATHA3

DOUBLE BOX RATCHET WRENCH

ATBR - For installation of collars onto threaded pins
ATBRO - 25° offset version of the ratchet above. All dimensions for offset wrench are the same as ATBR.





Part #	A	B	C	D	R Radius	S Radius
ATBR2125	4-1/4"	7/32"	1/4"	3/8"	19/64"	21/64"
ATBR2528		1/4"	9/32"			

COLLAR REMOVAL TOOL

REM100 - *Removes all threaded collars. Also will remove 'rounded-off' nuts.*



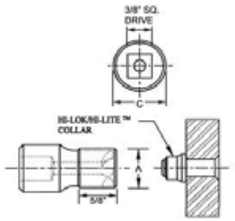


Pin Diameter	Part #	Nom. Pin Diameter	H	R	L	W
-5	REM100-56	5/32"	0.25	0.28	5.60	0.42
-6	REM100-56	3/16"	0.25	0.28	5.60	0.42
-8	REM100-8	1/4"	0.31	0.35	5.80	0.55

REMOVABLE SOCKET FOR COLLAR REMOVAL

OMAR100 *- Tool has 3 'teeth' that bite into collar to unscrew.*

Nom.Pin Diameter	Part #	A	C
-5	OMAR100-5	5/8"	0.25
-6	OMAR100-6	5/8"	0.25
-8	OMAR100-8	13/16"	0.31



HI LOK GAUGE

2-612



ASSORTED HARDWARE KITS

SOLID RIVET KIT #1

Quantity of 1 pound of each

MS20426AD3-4	MS20426AD4-6
MS20426AD3-5	MS20426AD4-8
MS20426AD3-6	MS20426AD5-6
MS20426AD4-3	MS20426AD5-8
MS20426AD4-4	MS20426AD6-6
MS20426AD4-5	MS20426AD6-8

SOLID RIVET KIT # 2

Quantity of 1 pound of each

MS20470AD3-4	MS20470AD4-6
MS20470AD3-5	MS20470AD4-8
MS20470AD3-6	MS20470AD5-6
MS20470AD4-3	MS20470AD5-8
MS20470AD4-4	MS20470AD6-6
MS20470AD4-5	MS20470AD6-8

RIVET NUT KIT

Quantity of 50 each

NAS1329A06-75	NAS1329A06K75
NAS1329A06-120	NAS1329A06K120
NAS1329A08-75	NAS1329A08K75
NAS1329A08-120	NAS1329A08K120
NAS1329A3-80	NAS1329A3K80

GROMMET KIT

Quantity of 10 each

MS35489-1 THRU -22
MS35489-118, -134, -135

SOLID RIVET KIT #3

COMBINATION OF KITS #1 & 2

CLAMP KIT

25	MS21919WDG2 THRU -16

TINNERMAN KIT

Quantity of 50 each

A1348-8Z1D	A1785-6Z1D
A1758-10Z1D	A1786-8Z1D
A1776-4Z1D	A1787-8Z1D
A1777-6Z1D	A1787-10Z1D
A1778-8Z1D	A1788-8Z1D
A1779-10Z1D	A1789-8Z1D
A1784-6Z1D	

COTTER PIN KIT

Quantity of 100 each

MS24665-132	MS24665-283
MS24665-134	MS24665-285
MS24665-136	MS24665-287
MS24665-138	MS24665-289
MS24665-140	MS24665-302
MS24665-151	MS24665-360
MS24665-153	MS24665-362
MS24665-155	MS24665-363
MS24665-22	MS24665-9
MS24665-281	MS24665-1012

SHEET METAL SCREW KIT

Quantity of 100 each

4 X 1/4	6 X 1/4	8 X 3/8	10 X 1/2
4 X 3/8	6 X 3/8	8 X 1/2	10 X 5/8
4 X 1/2	6 X 1/2	8 X 5/8	10 X 3/4
4 X 5/8	6 X 5/8	8 X 3/4	10 X 1
4 X 3/4	6 X 3/4	8 X 1	

KIT #1	TRUSS HEAD	ZINC
KIT #2	TRUSS HEAD	STAINLESS
KIT #3	FLAT HEAD	ZINC
KIT #4	FLAT HEAD	STAINLESS
KIT #5	OVAL HEAD	ZINC
KIT #6	OVAL HEAD	STAINLESS
KIT #7	PAN HEAD	STAINLESS

CAPLUG KIT

Quantity of 50 each

CD3	PD20
CD4	PD30
CD5	PD40
CD6	PD50
CD8	PD60
CD10	PD80
CD12	PD100
	PD120

GASKET KIT

10 EA. MS35769-2, 6, 8, 9, 10, 13, 15, 18 ,24, 51
25 EA. MS35769-31, 48
50 EA. MS35769-11, 21

RING TERMINAL KIT

Quantity of 25 each

MS25036-110, 112, 113, 115, 148, 149, 153, 154, 156, 157
M7928/5-2, 3, 4, 5

SPACER KIT

Quantity of 25 each

NAS43DD3-8, 12, 16, 20, 24, 28, 32, 34, 36, 40, 48, 64

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

NON STRUCTURAL SCREW KIT #1

100 EA.	AN526-632R4	THRU	-632R12
100 EA.	AN526-832R	THRU	-832R12
100 EA.	AN526-1032R6	THRU	-1032R16
100 EA.	MS24693S2	THRU	S8
100 EA.	MS24693S24	THRU	S30
100 EA.	MS24693S46	THRU	S54
100 EA.	MS24693S270	THRU	S276
100 EA.	MS35206-213	THRU	-219
100 EA.	MS35206-226	THRU	-232
100 EA.	MS35206-241	THRU	-249
100 EA.	MS35207-261	THRU	-267

NON STRUCTURAL SCREW KIT #2

100 EA.	MS24693S24	THRU	S30
100 EA.	MS24693S48	THRU	S52
100 EA.	MS24693S270	THRU	S274
100 EA.	MS24693C24	THRU	C30
100 EA.	MS24693C48	THRU	C52
100 EA.	MS24693C270	THRU	C274

NON-STRUCTURAL SCREW KIT #3

100 EA.	AN526-632R6	THRU	AN526-632R12
100 EA.	AN526-832R6	THRU	AN526-832R12
100 EA.	AN526-1032R6	THRU	AN526-1032R12
100 EA.	AN526C632R6	THRU	AN526C 632R12
100 EA.	AN526C832R6	THRU	AN526C832R12
100 EA.	AN526C1032R6	THRU	AN526C1032R12

***** This kit no longer contains: AN526-632R9***

STAINLESS SCREW KIT #1

100 EA.	MS24693C4	THRU	C8
100 EA.	MS24693C24	THRU	C30
100 EA.	MS24693C46	THRU	C52
100 EA.	MS24693C270	THRU	C276
100 EA.	MS24694C3	THRU	C7
100 EA.	MS24694C48	THRU	C52

STAINLESS SCREW KIT #2

100 EA.	AN526C632R4	THRU	C632R12
100 EA.	AN526C832R6	THRU	C832R16
100 EA.	AN526C1032R6	THRU	C1032R16
100 EA.	MS51957-30	AND	MS51957-45
100 EA.	MS51958-64	AND	MS51958-65

STAINLESS SCREW KIT #3

100 EA.	AN526C632R6	THRU	C632R12
100 EA.	AN526C832R6	THRU	C832R12
100 EA.	AN526C1032R6	THRU	C1032R12
100 EA.	MS24693C24	AND	MS24693C30
100 EA.	MS24693C46	THRU	C54
100 EA.	MS24693C270	THRU	C276
100 EA.	MS24694C5	THRU	C9
100 EA.	MS24694C48	THRU	C54

BLACK BRASS SCREW KIT

100 EA.	MS35214-14, 16, 20		
100 EA.	MS35214-25	THRU	-33
100 EA.	MS35214-42	THRU	-47
100 EA.	MS24693BB2, 6, 26, 28		
100 EA.	MS24693BB30	THRU	BB36
100 EA.	MS24693BB50, 52, 54, 58		

INSTRUMENT SCREW/ NUT KIT

100 EA.	MS24693BB28	THRU	BB36
100 EA.	MS24693BB50	THRU	BB54
100 EA.	MS35214-14	THRU	-16
100 EA.	MS35214-25	THRU	-33
100 EA.	MS35214-42	THRU	-46
25 EA.	MS33737-9C	THRU	-16C

CLEVIS PIN KIT

5 EA.	MS20392-1C7	THRU	-1C35
5 EA.	MS20392-2C7	THRU	-2C45
5 EA.	MS20392-3C11	THRU	-3C41
100 EA.	MS24665-132		
100 EA.	MS24665-283		

CHERRYMAX RIVET KIT #1

100 EA.	CR3212-4-02	
100 EA.	CR3212-4-03	
100 EA.	CR3212-4-04	
100 EA.	CR3213-4-02	
100 EA.	CR3213-4-03	
100 EA.	CR3213-4-04	
100 EA.	CR3242-4-02	
100 EA.	CR3242-4-03	
100 EA.	CR3242-4-04	
100 EA.	CR3243-4-02	
100 EA.	CR3243-4-03	
100 EA.	CR3243-4-04	

CHERRYMAX RIVET KIT #2

100 EA.	CR3212-5-02	
100 EA.	CR3212-5-03	
100 EA.	CR3212-5-04	
100 EA.	CR3213-5-02	
100 EA.	CR3213-5-03	
100 EA.	CR3213-5-04	
100 EA.	CR3242-5-02	
100 EA.	CR3242-5-03	
100 EA.	CR3242-5-04	
100 EA.	CR3243-5-02	
100 EA.	CR3243-5-03	
100 EA.	CR3243-5-04	

CHERRY NUTPLATE RIVET KIT

100 EA.	CCR264CS3-02	
100 EA.	CCR264CS3-03	
100 EA.	CCR264CS3-04	
100 EA.	CCR264SS3-02	
100 EA.	CCR264SS3-03	
100 EA.	CCR264SS3-04	

"AN" BOLT KIT #1

(UNDRILLED)

25 EA.	AN3-3A	THRU	AN3-12A
15 EA.	AN3-13A	THRU	AN3-22A
10 EA.	AN3-23A	THRU	AN3-30A
25 EA.	AN4-3A	THRU	AN4-12A
10 EA.	AN4-13A	THRU	AN4-26A
5 EA.	AN4-27A	THRU	AN4-35A

"AN" BOLT KIT #2

(DRILLED)

25 EA.	AN3-3	THRU	AN3-12
10 EA.	AN3-13	THRU	AN3-20
10 EA.	AN3-21	THRU	AN3-30
25 EA.	AN4-4	THRU	AN4-12
10 EA.	AN4-13	THRU	AN4-20

"AN" BOLT KIT #3

(UNDRILLED)

10 EA.	AN5-4A	THRU	AN5-20A
5 EA.	AN5-21A	THRU	AN5-35A
10 EA.	AN6-5A	THRU	AN6-20A
5 EA.	AN6-21A	THRU	AN6-35A

"AN" BOLT KIT #4

(DRILLED)

10 EA.	AN5-4	THRU	AN5-12
5 EA.	AN5-13	THRU	AN5-30
10 EA.	AN6-5	THRU	AN6-12
5 EA.	AN6-13	THRU	AN6-30
50 EA.	AN310-5		
50 EA.	AN310-6		
100 EA.	MS24665-132		
100 EA.	MS24665-283		

"AN" ASSORTED BOLT KIT

25 EA.	AN3-3A	THRU	AN3-12A
15 EA.	AN3-13A	THRU	AN3-24A
25 EA.	AN3-3	THRU	AN3-12
15 EA.	AN3-13	THRU	AN3-20
25 EA.	AN4-4A	THRU	AN4-12A
10 EA.	AN4-13A	THRU	AN4-20A
10 EA.	AN4-4	THRU	AN4-20
10 EA.	AN5-5A	THRU	AN5-20A
10 EA.	AN5-5	THRU	AN5-20
10 EA.	AN6-5A	THRU	AN6-20A
10 EA.	AN6-5	THRU	AN6-20

WASHER KIT #1

100 EA.	AN960-4	THRU	AN960-616
100 EA.	AN960-4L	THRU	AN960-616L
100 EA.	AN960C4	THRU	AN960C616
100 EA.	AN960C4L	THRU	AN960C616L
100 EA.	AN960JD4	THRU	AN960JD616
100 EA.	AN960JD4L	THRU	AN960JD616L
100 EA.	AN970-3	AND	AN970-4
50 EA.	AN970-5	AND	AN970-6
100 EA.	MS35333-36	THRU	MS35333-42
100 EA.	MS35335-29	THRU	MS35335-35
100 EA.	MS35338-40	THRU	MS35338-46

ASST. NUT/NUTPLATE KIT #1

100 EA.	MS21044N06	THRU	MS21044N4
100 EA.	MS21045-06	THRU	MS21045-4
25 EA.	AN310-3	AND	AN310-4
25 EA.	AN320-3	AND	AN320-4
25 EA.	MS17825-3	AND	MS17825-4
25 EA.	MS17826-3	AND	MS17826-4
100 EA.	AN315-3R	AND	AN315-4R
100 EA.	MS35649-242, -262, -282		
100 EA.	MS35650-302	AND	-3252
100 EA.	MS21042L06	THRU	MS21042L4
25 EA.	NAS679A06W	THRU	NAS679A4W
25 EA.	MS21047L06, L08, L3		
25 EA.	MS21059L06, L08, L3		
25 EA.	MS21061L08	AND	MS21061L3
25 EA.	MS21071L06, L08, L3		
25 EA.	MS21075L06N, L08N, L3N		

ASST. NUT/NUTPLATE KIT #2

100 EA.	MS21044N06	THRU	MS21044N4
100 EA.	MS21045-06	THRU	MS21045-4
100 EA.	MS21083N06	THRU	MS21083N4
25 EA.	AN310-3	AND	AN310-4
25 EA.	AN320-3	AND	AN320-4
100 EA.	AN315-3R	AND	AN315-4R
25 EA.	NAS679A06W	THRU	NAS679A4W
25 EA.	MS21047L06, L08, L3		
25 EA.	MS21059L06, L08, L3		
25 EA.	MS21075L06N, L08N, L3		

WASHER KIT #2

100 EA.	AN960-4	THRU	AN960-616
100 EA.	AN960-4L	THRU	AN960-616L
100 EA.	AN970-3	AND	AN970-4
100 EA.	NAS1515H06L, 08L, 3L		
100 EA.	SKIN WASHER #6, #8, #10		
100 EA.	SKIN WASHER S/S #6, #8, #10		
100 EA.	601-4, -6, -8, -10		
100 EA.	603-6, -8, -10		

CASTLE/PLAIN NUT KIT

(NON-SELF LOCKING)

25 EA.	AN310-3	THRU	AN310-6
25 EA.	AN320-3	THRU	AN320-6
100 EA.	AN315-3R	THRU	AN315-6R
100 EA.	AN316-4R	THRU	AN316-6R
100 EA.	MS35649-242, -262, -282		
100 EA.	MS35650-302, -3252, -3312		

SELF LOCKING NUT KIT

100 EA.	MS21044N06	THRU	MS21044N6
100 EA.	MS21045-3	AND	MS21045-4
50 EA.	MS21045-5	AND	MS21045-6
100 EA.	MS21083N06	THRU	MS21083N4
50 EA.	MS21083N5	AND	MS21083N6
100 EA.	MS21042L06	THRU	MS21042L4
50 EA.	MS21042-06	THRU	MS21042-4

NUTPLATE KIT

25 EA.	MS21047L06, L08, L3		
25 EA.	MS21049L08, L3		
25 EA.	MS21051L06, L08, L3		
25 EA.	MS21055L06, L08, L3		
25 EA.	MS21059L06, L08, L3		
25 EA.	MS21061L06, L08, L3		
25 EA.	MS21071L06, L08, L3		
25 EA.	MS21073L06, L08, L3		
25 EA.	MS21075L06N, L08N, L3N		

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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THOMAS & BETTS TIE WRAP KIT

100 EA.	TY25M	100 EA.	TY23M
100 EA.	TY28M	100 EA.	TY24M
100 EA.	TY27M	100 EA.	TY253M

MS24693 KIT

100 EA.	MS24693S2	THRU	MS24693S8
100 EA.	MS24693S24	THRU	MS24693S30
100 EA.	MS24693S46	THRU	MS24693S52
100 EA.	MS24693S270	THRU	MS24693S276

WASHER/COTTER PIN KIT

100 EA.	AN960-6	100 EA.	AN960-6L	100 EA.	MS24665-132
100 EA.	AN960-8	100 EA.	AN960-8L	100 EA.	MS24665-134
100 EA.	AN960-10	100 EA.	AN960-10L	100 EA.	MS24665-136
100 EA.	AN960-416	100 EA.	AN960-416L	100 EA.	MS24665-283
100 EA.	AN960-516	100 EA.	AN960-516L	100 EA.	MS24665-285
100 EA.	AN960-616	100 EA.	AN960-616L	100 EA.	MS24665-360

WASHER/COTTER PIN KIT STAINLESS STEEL

100 EA.	AN960C6	100 EA.	AN960C6L	100 EA.	MS24665-151
100 EA.	AN960C8	100 EA.	AN960C8L	100 EA.	MS24665-153
100 EA.	AN960C10	100 EA.	AN960C10L	100 EA.	MS24665-155
100 EA.	AN960C416	100 EA.	AN960C416L	100 EA.	MS24665-300
100 EA.	AN960C516	100 EA.	AN960C516L	100 EA.	MS24665-302
100 EA.	AN960C616	100 EA.	AN960C616L	100 EA.	MS24665-304

MS21044 NUT KIT

100 EA.	MS21044N04
100 EA.	MS21044N06
100 EA.	MS21044N08
100 EA.	MS21044N3
100 EA.	MS21044N4
50 EA.	MS21044N5
25 EA.	MS21044N6

MS21045 NUT KIT

100 EA.	MS21045-04
100 EA.	MS21045-06
100 EA.	MS21045-08
100 EA.	MS21045-3
50 EA.	MS21045-4
25 EA.	MS21045-5
25 EA.	MS21045-6

MS21083 NUT KIT

100 EA.	MS21083N04
100 EA.	MS21083N06
100 EA.	MS21083N08
100 EA.	MS21083N3
100 EA.	MS21083N4
50 EA.	MS21083N5
25 EA.	MS21083N6

MS21042 NUT KIT

100 EA.	MS21042L04
100 EA.	MS21042L06
100 EA.	MS21042L08
100 EA.	MS21042L3
100 EA.	MS21042L4
100 EA.	MS21042-04
100 EA.	MS21042-06
100 EA.	MS21042-08
100 EA.	MS21042-3
100 EA.	MS21042-4

MS24694 KIT

100 EA.	MS24694S2	THRU	MS24694S13
100 EA.	MS24694S47	THRU	MS24694S58

AN525 KIT

100 EA.	AN525-832R6	THRU	AN525-832R12
100 EA.	AN525-10R6	THRU	AN525-10R16

AN526 S/S KIT

100 EA.	AN526C632R6	THRU	AN526C632R12
100 EA.	AN526C832R6	THRU	AN526C832R12
100 EA.	AN526C1032R6	THRU	AN526C1032R12

MS27039 S/S KIT

100 EA.	MS27039C0807	THRU	C0809
100 EA.	MS27039C0812		
100 EA.	MS27039C1-07	THRU	MS27039C 1-11

Structural Screw Kits are on Page 34

FITTING KIT #1

Quantity of 5 each

AN806D2	AN818-2D	AN924-3D	AN929-2	MS20819-2D
AN806D3	AN818-3D	AN924-4D	AN929-3	MS20819-3D
AN806D4	AN818-4D	AN924-5D	AN929-4	MS20819-4D
AN806D5	AN818-5D	AN924-6D	AN929-5	MS20819-5D
AN806D6	AN818-6D	AN924-8D	AN929-6	MS20819-6D
AN806D8	AN818-8D		AN929-8	MS20819-8D

FITTING KIT #2

Quantity of 2 each

AN815-2D	AN816-3D	AN824-6D	MS20822-6D
AN815-3D	AN816-4D	AN833-4D	MS20823-4D
AN815-4D	AN816-5D	AN833-6D	MS20823-6D
AN815-5D	AN816-6D	MS20822-3D	MS20825-4D
AN815-6D	AN821-4D	MS20822-4D	MS20825-6D
AN815-8D	AN824-4D	MS20822-5D	MS20826-4D

FITTING KIT #3

Quantity of 5 each

AN806D4	AN924-4D	MS20819-4D	471-2D
AN806D6	AN924-6D	MS20819-6D	471-4D
AN806D8	AN924-8D	MS20819-8D	471-6D
AN818-4D	AN929-4	MS20822-4D	491-4
AN818-6D	AN929-6	MS20823-4D	491-6
AN818-8D	AN929-8	MS20823-6D	491-8D

FITTING KIT #4

Quantity of 5 each

AN806D4	AN924-4D	MS20819-4D
AN806D6	AN924-6D	MS20819-6D
AN806D8	AN924-8D	MS20819-8D
AN818-4D	AN929-4	MS20822-4D
AN818-6D	AN929-6	MS20823-4D
AN818-8D	AN929-8	MS20825-4D

FITTING KIT #5

Quantity of 5 each

MS20813-1	MS21913D6	MS21914-6D
MS21913-4	MS21914-4	MS21921-4D
MS21913-5	MS21914-5	MS21921-6D
MS21913-6	MS21914-6	MS21922-4
MS21913D4	MS21914-4D	MS21922-6
MS21913D5	MS21914-5D	

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

FBO STAINLESS STARTER KIT #1 (128 Pieces)

100 EA.	MS24693C26	THRU	MS24693C30	25 EA.	AN3C3A	THRU	AN3C10A
100 EA.	MS24693C48	THRU	MS24693C52	25 EA.	AN4C4A	THRU	AN4C10A
100 EA.	MS24693C272	THRU	MS24693C274	25 EA.	MS21059L06		
100 EA.	AN526C632R6	THRU	AN526C632R12	25 EA.	MS21059L08		
100 EA.	AN526C832R6	THRU	AN526C832R12	25 EA.	MS21059L3		
100 EA.	AN526C1032R6	THRU	AN526C1032R12	25 EA.	MS21060L06		
100 EA.	MS27039C0808	THRU	MS27039C0810	25 EA.	MS21060L08		
100 EA.	MS27039C1-08	THRU	MS27039C1-10	25 EA.	MS21060L3		
100 EA.	MS24694C3	THRU	MS24694C7	25 EA.	MS21075L06N		
100 EA.	MS24694C50	THRU	MS24694C54	25 EA.	MS21075L08N		
100 EA.	MS24665-151			25 EA.	MS21075L3N		
100 EA.	MS24665-153			25 EA.	MS21076L08N		
100 EA.	MS24665-155			25 EA.	MS21076L3N		
100 EA.	MS24665-300			25 EA.	AN310C3		
100 EA.	MS24665-302			25 EA.	AN310C4		
100 EA.	MS24665-304			25 EA.	AN320C3		
100 EA.	AN960C6			25 EA.	AN320C4		
100 EA.	AN960C8			25 EA.	MS21044C06		
100 EA.	AN960C10			25 EA.	MS21044C08		
100 EA.	AN960C416			25 EA.	MS21044C3		
100 EA.	AN960C6L			25 EA.	MS21045C06		
100 EA.	AN960C8L			25 EA.	MS21045C08		
100 EA.	AN960C10L			25 EA.	MS21045C3		
100 EA.	AN960C416L			25 EA.	MS35489-10	THRUMS	35489-12
100 EA.	EC1075-012-06SS			25 EA.	MS35489-134		
100 EA.	EC1080-017-08SS			25 EA.	MS35489-14		
100 EA.	EC1085-020-10SS			25 EA.	NAS1329A06K75		
100 EA.	MS35333-71			25 EA.	NAS1329A08K75		
100 EA.	MS35333-72			25 EA.	NAS1329A3K80		
100 EA.	MS35333-73			25 EA.	NAS1329A06-75		
100 EA.	MS35333-74			25 EA.	NAS1329A3-80		
100 EA.	MS35338-136			25 EA.	NAS1329A3-80		
100 EA.	MS35338-137			10 EA.	MS21919WDG2	THRU	MS21919WDG12
100 EA.	MS35338-138			10 EA.	MS35769-11		
100 EA.	MS35338-139			10 EA.	MS35769-21		
100 EA.	601-6			10 EA.	MS35769-31		
100 EA.	601-8			10 EA.	MS35769-48		
100 EA.	601-10						

FBO STAINLESS STARTER KIT #2 (77 Pieces)

100 EA.	MS24693C26	THRU	MS24693C30	100 EA.	AN960C6L		
100 EA.	MS24693C48	THRU	MS24693C52	100 EA.	AN960C8L		
100 EA.	MS24693C272	THRU	MS24693C274	100 EA.	AN960C10L		
100 EA.	AN526C632R6	THRU	AN526C632R12	100 EA.	AN960C416L		
100 EA.	AN526C832R6	THRU	AN526C832R12	100 EA.	EC1075-012-06SS		
100 EA.	AN526C1032R6	THRU	AN526C1032R12	100 EA.	EC1080-017-08SS		
100 EA.	MS24694C3	THRU	MS24694C7	100 EA.	EC1085-020-10SS		
100 EA.	MS24694C50	THRU	MS24694C54	25 EA.	AN3C3A	THRU	AN3C10A
100 EA.	MS24665-151			25 EA.	AN4C4A	THRU	AN4C10A
100 EA.	MS24665-153			25 EA.	AN310C3		
100 EA.	MS24665-155			25 EA.	AN310C4		
100 EA.	MS24665-300			25 EA.	AN320C3		
100 EA.	MS24665-302			25 EA.	AN320C4		
100 EA.	MS24665-304			25 EA.	MS21044C06		
100 EA.	AN960C6			25 EA.	MS21044C08		
100 EA.	AN960C8			25 EA.	MS21044C3		
100 EA.	AN960C10			25 EA.	MS21045C08		
100 EA.	AN960C416			25 EA.	MS21045C3		

FBO STARTER KIT #1 (173 Pieces)

***** This kit no longer contains: AN526-632R9***

100 EA.	MS24693S26	THRU	MS24693S30	25 EA.	AN3-3A	THRU	AN3-12A
100 EA.	MS24693S48	THRU	MS24693S52	25 EA.	AN4-4A	THRU	AN4-12A
100 EA.	MS24693S272	THRU	MS24693S274	25 EA.	MS21047L06		
100 EA.	AN526-632R6	THRU	AN526-632R12	25 EA.	MS21047L08		
100 EA.	AN526-832R6	THRU	AN526-832R12	25 EA.	MS21047L3		
100 EA.	AN526-1032R6	THRU	AN526-1032R12	25 EA.	MS21059L06		
100 EA.	AN525-832R6	THRU	AN525-832R12	25 EA.	MS21059L08		
100 EA.	AN525-10R6	THRU	AN525-10R12	25 EA.	MS21059L3		
100 EA.	MS24694S4	THRU	MS24694S9	25 EA.	MS21075L06N		
100 EA.	MS24694S50	THRU	MS24694S54	25 EA.	MS21075L08N		
100 EA.	MS24665-132			25 EA.	MS21075L3N		
100 EA.	MS24665-134			25 EA.	AN310-3		
100 EA.	MS24665-136			25 EA.	AN310-4		
100 EA.	MS24665-151			25 EA.	AN320-3		
100 EA.	MS24665-153			25 EA.	AN320-4		
100 EA.	MS24665-155			25 EA.	NAS1329A06K75		
100 EA.	MS24665-283			25 EA.	NAS1329A08K75		
100 EA.	MS24665-285			25 EA.	NAS1329A3K80		
100 EA.	MS24665-287			25 EA.	NAS1329A06-75		
100 EA.	MS24665-300			25 EA.	NAS1329A08-75		
100 EA.	MS21044N06			25 EA.	NAS1329A3-80		
100 EA.	MS21044N08			10 EA.	AN3-3	THRU	AN3-12
100 EA.	MS21044N3			10 EA.	AN4-4	THRU	AN4-12
100 EA.	MS21044N4			10 EA.	MS35489-10	THRU	MS35489-12
100 EA.	MS21045-06			10 EA.	MS35489-134		
100 EA.	MS21045-08			10 EA.	MS35489-14		
100 EA.	MS21045-3			10 EA.	MS21919WDG2	THRU	MS21919WDG12
100 EA.	AN960-6			10 EA.	MS35769-11		
100 EA.	AN960-8			10 EA.	MS35769-21		
100 EA.	AN960-10			10 EA.	MS35769-31		
100 EA.	AN960-416			10 EA.	MS35769-48		
100 EA.	AN960-6L			10 EA.	MS28775-010	THRU	MS28775-013
100 EA.	AN960-8L			10 EA.	MS28775-111	THRU	MS28775-116
100 EA.	AN960-10L			10 EA.	MS29513-010		
100 EA.	AN960-416L			10 EA.	MS29513-111		
100 EA.	MS35333-37	THRU	MS35333-40	10 EA.	MS29513-138		
100 EA.	MS35335-31	THRU	MS35335-33				
100 EA.	MS35338-41	THRU	MS35338-44				

FBO STARTER KIT #2 (91 Pieces)

***** This kit no longer contains: AN526-632R9***

100 EA.	MS24693S26	THRU	MS24693S30	100 EA.	MS24665-300		
100 EA.	MS24693S48	THRU	MS24693S52	100 EA.	MS21044N06		
100 EA.	MS24693S272	THRU	MS24693S274	100 EA.	MS21044N08		
100 EA.	AN526-632R6	THRU	AN526-632R12	100 EA.	MS21044N3		
100 EA.	AN526-832R6	THRU	AN526-832R12	100 EA.	MS21044N4		
100 EA.	AN526-1032R6	THRU	AN526-1032R12	100 EA.	MS21045-06		
100 EA.	AN525-832R6	THRU	AN525-832R12	100 EA.	MS21045-08		
100 EA.	AN525-10R6	THRU	AN525-10R12	100 EA.	MS21045-3		
100 EA.	MS24694S4	THRU	MS24694S9	100 EA.	AN960-6		
100 EA.	MS24694S50	THRU	MS24694S54	100 EA.	AN960-8		
100 EA.	MS24665-132			100 EA.	AN960-10		
100 EA.	MS24665-134			100 EA.	AN960-416		
100 EA.	MS24665-136			100 EA.	AN960-6L		
100 EA.	MS24665-151			100 EA.	AN960-8L		
100 EA.	MS24665-153			100 EA.	AN960-10L		
100 EA.	MS24665-155			100 EA.	AN960-416L		
100 EA.	MS24665-283			100 EA.	MS35333-37	THRU	MS35333-40
100 EA.	MS24665-285			100 EA.	MS35335-31	THRU	MS35335-33
100 EA.	MS24665-287			100 EA.	MS35338-41	THRU	MS35338-44

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FBO STARTER BIN KIT (144 Pieces)

100	MS24693S26	100	AN525-10R10	100	AN310-4	50	AN3-7A
100	MS24693S27	100	AN525-10R11	100	AN320-3	25	AN3-10A
100	MS24693S28	100	AN525-10R12	100	AN320-4	25	AN3-11A
100	MS24693S29	100	MS24694S4	100	AN960-6	25	AN3-12A
100	MS24693S30	100	MS24694S5	100	AN960-8	25	AN4-4A
100	MS24693S48	100	MS24694S6	100	AN960-10	25	AN4-5A
100	MS24693S49	100	MS24694S7	100	AN960-416	25	AN4-6A
100	MS24693S50	100	MS24694S8	100	AN960-6L	25	AN4-7A
100	MS24693S51	100	MS24694S9	100	AN960-8L	25	AN4-10A
100	MS24693S52	100	MS24694S50	100	AN960-10L	25	AN4-11A
100	MS24693S272	100	MS24694S51	100	AN960-416L	25	AN4-12A
100	MS24693S273	100	MS24694S52	100	MS35333-37	25	AN3-3
100	MS24693S274	100	MS24694S53	100	MS35333-38	25	AN3-4
100	AN526-632R6	100	MS24694S54	100	MS35333-39	25	AN3-5
100	AN526-632R8	100	MS24665-132	100	MS35333-40	25	AN3-6
100	AN526-632R10	100	MS24665-134	100	MS35335-31	25	AN3-7
100	AN526-632R12	100	MS24665-136	100	MS35335-32	25	AN3-10
100	AN526-832R6	100	MS24665-151	100	MS35335-33	25	AN3-11
100	AN526-832R8	100	MS24665-153	100	MS35335-34	25	AN3-12
100	AN526-832R10	100	MS24665-155	100	MS35338-41	25	AN4-4
100	AN526-832R12	100	MS24665-283	100	MS35338-42	25	AN4-5
100	AN526-1032R6	100	MS24665-285	100	MS35338-43	25	AN4-6
100	AN526-1032R8	100	MS24665-300	100	MS35338-44	25	AN4-7
100	AN526-1032R10	100	MS21044N06	25	MS21047L06	25	AN4-10
100	AN526-1032R12	100	MS21044N08	25	MS21047L08	25	AN4-11
100	AN525-832R6	100	MS21044N3	25	MS21047L3	25	AN4-12
100	AN525-832R7	100	MS21044N4	50	MS21059L06	50	NAS1329A06K75
100	AN525-832R8	100	MS21045-06	50	MS21059L08	50	NAS1329A08K75
100	AN525-832R9	100	MS21045-08	50	MS21059L3	50	NAS1329A3K80
100	AN525-832R10	100	MS21045-3	50	MS21075L06N	50	NAS1329A06-75
100	AN525-832R11	100	MS21045-4	50	MS21075L08N	50	NAS1329A08-75
100	AN525-832R12	100	MS21083N06	50	MS21075L3N	50	NAS1329A3-80
100	AN525-10R6	100	MS21083N08	50	AN3-3A	25	MS35769-11
100	AN525-10R7	100	MS21083N3	50	AN3-4A	25	MS35769-21
100	AN525-10R8	100	MS21083N4	50	AN3-5A	25	MS35489-11
100	AN525-10R9	100	AN310-3	50	AN3-6A	25	MS35489-12

FBO STARTER BIN KIT (96 Pieces)

100	MS24693S26	100	AN526-1032R12	100	MS24694S53	100	AN960-8
100	MS24693S27	100	AN525-832R6	100	MS24694S54	100	AN960-10
100	MS24693S28	100	AN525-832R7	100	MS24665-132	100	AN960-416
100	MS24693S29	100	AN525-832R8	100	MS24665-134	100	AN960-6L
100	MS24693S30	100	AN525-832R9	100	MS24665-136	100	AN960-8L
100	MS24693S48	100	AN525-832R10	100	MS24665-151	100	AN960-10L
100	MS24693S49	100	AN525-832R11	100	MS24665-153	100	AN960-416L
100	MS24693S50	100	AN525-832R12	100	MS24665-155	100	MS35333-37
100	MS24693S51	100	AN525-10R6	100	MS24665-283	100	MS35333-38
100	MS24693S52	100	AN525-10R7	100	MS24665-285	100	MS35333-39
100	MS24693S272	100	AN525-10R8	100	MS24665-300	100	MS35333-40
100	MS24693S273	100	AN525-10R9	100	MS21044N06	100	MS35338-41
100	MS24693S274	100	AN525-10R10	100	MS21044N08	100	MS35338-42
100	AN526-632R6	100	AN525-10R11	100	MS21044N3	100	MS35338-43
100	AN526-632R8	100	AN525-10R12	100	MS21044N4	100	MS35338-44
100	AN526-632R10	100	MS24694S4	100	MS21045-06	25	MS21047L06
100	AN526-632R12	100	MS24694S5	100	MS21045-08	25	MS21047L08
100	AN526-832R6	100	MS24694S6	100	MS21045-3	25	MS21047L3
100	AN526-832R8	100	MS24694S7	100	MS21045-4	25	MS21059L06
100	AN526-832R10	100	MS24694S8	100	MS21083N06	25	MS21059L08
100	AN526-832R12	100	MS24694S9	100	MS21083N08	25	MS21059L3
100	AN526-1032R6	100	MS24694S50	100	MS21083N3	25	MS21075L06N
100	AN526-1032R8	100	MS24694S51	100	MS21083N4	25	MS21075L08N
100	AN526-1032R10	100	MS24694S52	100	AN960-6	25	MS21075L3N

HARDWARE BIN KITS

Compartment bins and Hardware Bin Kits are sold separately.







COMPARTMENT BIN



6 BIN CASE



4 BIN CASE



TABLE BASE

SPECIFICATIONS	COMPARTMENT BIN	6BINCASE	4 BIN CASE	TABLE BASE
Width, Inches	13 3/8	15 1/4	15 1/4	15 1/2
Height, Inches	2	16 3/8	11 1/4	15 1/8
Depth, Inches	9 1/4	11 3/4	11 3/4	12 1/8
Material	Prime Cold Rolled Steel	Prime Cold Rolled Steel	Prime Cold Rolled Steel	Prime Cold Rolled Steel
Color	Gray Baked Enamel	Gray Baked Enamel	Gray Baked Enamel	Gray Baked Enamel
Compartments	24	Holds 6 Bins	Holds 4 Bins	N/A

Monroe Aerospace compartment bins and bin cases are designed to hold small scoop compartment boxes. They are manufactured of prime cold rolled steel and are finished in rust and acid resistant baked enamel. All parts, including cradles which support scoop boxes, and coated slides and tracks, are tooled for quality and uniformity. A center panel on each cradle supports boxes and special stops prevent units from being accidentally pulled from the rack. Racks are reinforced for strength and support loaded boxes in the open position without tilting.

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SHEET METAL, S/S SCREW BIN KIT

100 4X1/2THA S/S	100 4X1/2FHA S/S
100 4X5/8THA S/S	100 4X5/8FHA S/S
100 4X3/4THA S/S	100 4X3/4FHA S/S
100 6X1/2THA S/S	100 6X1/2FHA S/S
100 6X5/8THA S/S	100 6X5/8FHA S/S
100 6X3/4THA S/S	100 6X3/4FHA S/S
100 8X1/2THA S/S	100 8X1/2FHA S/S
100 8X5/8THA S/S	100 8X5/8FHA S/S
100 8X3/4THA S/S	100 8X3/4FHA S/S
100 10X1/2THA S/S	100 10X1/2FHA S/S
100 10X5/8THA S/S	100 10X5/8FHA S/S
100 10X3/4THA S/S	100 10X3/4FHA S/S

SHEET METAL STEEL BIN KIT

100 4X1/2THA	100 4X1/2FHA
100 4X5/8THA	100 4X5/8FHA
100 4X3/4THA	100 4X3/4FHA
100 6X1/2THA	100 6X1/2FHA
100 6X5/8THA	100 6X5/8FHA
100 6X3/4THA	100 6X3/4FHA
100 8X1/2THA	100 8X1/2FHA
100 8X5/8THA	100 8X5/8FHA
100 8X3/4THA	100 8X3/4FHA
100 10X1/2THA	100 10X1/2FHA
100 10X5/8THA	100 10X5/8FHA
100 10X3/4THA	100 10X3/4FHA

UNDRILLED BOLT BIN KIT #1

25 AN3-3A	25 AN4-3A
25 AN3-4A	25 AN4-4A
25 AN3-5A	25 AN4-6A
25 AN3-6A	25 AN4-7A
25 AN3-7A	25 AN4-10A
25 AN3-10A	20 AN4-11A
20 AN3-11A	20 AN4-12A
20 AN3-12A	20 AN4-13A
20 AN3-13A	20 AN4-14A
20 AN3-14A	20 AN4-15A
20 AN3-15A	20 AN4-16A
20 AN3-16A	

UNDRILLED BOLT BIN KIT #2

100 AN3-3A	25 AN4-10A
100 AN3-4A	25 AN4-11A
100 AN3-5A	25 AN4-12A
50 AN3-6A	100 AN3C3A
50 AN3-7A	100 AN3C4A
50 AN3-10A	100 AN3C5A
50 AN3-11A	50 AN4C4A
50 AN3-12A	50 AN4C5A
50 AN4-4A	100 AN3H3A
50 AN4-5A	100 AN3H4A
50 AN4-6A	50 AN4H4A
50 AN4-7A	50 AN4H5A

DRILLED BOLT BIN KIT #1

25 AN3-3	25 AN4-3
25 AN3-4	25 AN4-4
25 AN3-5	25 AN4-6
25 AN3-6	25 AN4-7
25 AN3-7	25 AN4-10
25 AN3-10	20 AN4-11
20 AN3-11	20 AN4-12
20 AN3-12	20 AN4-13
20 AN3-13	20 AN4-14
20 AN3-14	20 AN4-15
20 AN3-15	20 AN4-16
20 AN3-16	

DRILLED BOLT BIN KIT #2

100 AN3-3	25 AN4-10
100 AN3-4	25 AN4-11
100 AN3-5	25 AN4-12
50 AN3-6	25 AN5-6
50 AN3-7	25 AN5-7
50 AN3-10	25 AN5-10
50 AN3-11	20 AN5-11
50 AN3-12	20 AN5-12
50 AN4-4	100 AN310-3
50 AN4-5	100 AN310-4
50 AN4-6	50 AN310-5
50 AN4-7	500 MS24665-132

WASHER BIN KIT #1

100 AN960-6	100 MS35333-37
100 AN960-8	100 MS35333-38
100 AN960-10	100 MS35333-39
100 AN960-416	100 MS35333-40
100 AN960-516	100 MS35338-41
100 AN960-616	100 MS35338-42
100 AN960-6L	100 MS35338-43
100 AN960-8L	100 MS35338-44
100 AN960-10L	100 AN970-3
100 AN960-416L	50 AN970-4
100 AN960-516L	25 AN970-5
100 AN960-616L	25 AN970-6

WASHER BIN KIT #2

100 AN960C6	100 MS35333-37
100 AN960C8	100 MS35333-38
100 AN960C10	100 MS35333-39
100 AN960C416	100 MS35333-40
100 AN960C516	100 MS35338-41
100 AN960C616	100 MS35338-42
100 AN960C6L	100 MS35338-43
100 AN960C8L	100 MS35338-44
100 AN960C10L	100 AN970-3
100 AN960C416L	50 AN970-4
100 AN960C516L	25 AN970-5
100 AN960C616L	25 AN970-6

COTTER PIN BIN KIT

100 MS24665-1012	100 MS24665-212
100 MS24665-1013	100 MS24665-22
100 MS24665-132	100 MS24665-229
100 MS24665-134	100 MS34665-231
100 MS24665-136	100 MS24665-283
100 MS24665-138	100 MS24665-285
100 MS24665-140	100 MS24665-287
100 MS24665-151	100 MS24665-289
100 MS24665-153	100 MS24665-300
100 MS24665-155	100 MS24665-302
100 MS24665-157	100 MS24665-360
100 MS24665-210	100 MS24665-362

WASHER/COTTER PIN S/S BIN KIT

100 AN960C6	100 MS24665-302
100 AN960C8	100 MS24665-304
100 AN960C10	100 EC1075-012-06SS
100 AN960C416	100 EC1080-017-08SS
100 AN960C6L	100 EC1085-020-10SS
100 AN960C8L	100 MS35333-71
100 AN960C10L	100 MS35333-72
100 AN960C416L	100 MS35333-73
100 MS24665-151	100 MS35333-74
100 MS24665-153	100 MS35338-136
100 MS24665-155	100 MS35338-137
100 MS24665-300	100 MS35338-138

MS24693 BIN KIT

100 MS24693S2	100 MS24693S46
100 MS24693S3	100 MS24693S47
100 MS24693S4	100 MS24693S48
100 MS24693S6	100 MS24693S49
100 MS24693S7	100 MS24693S50
100 MS24693S24	100 MS24693S51
100 MS24693S25	100 MS24693S52
100 MS24693S26	100 MS24693S270
100 MS24693S27	100 MS24693S271
100 MS24693S28	100 MS24693S272
100 MS24693S29	100 MS24693S273
100 MS24693S30	100 MS24693274

MS24693 S/S BIN KIT

100 MS24693C2	100 MS24693C46
100 MS24693C3	100 MS24693C47
100 MS24693C4	100 MS24693C48
100 MS24693C6	100 MS24693C49
100 MS24693C7	100 MS24693C50
100 MS24693C24	100 MS24693C51
100 MS24693C25	100 MS24693C52
100 MS24693C26	100 MS24693C270
100 MS24693C27	100 MS24693C271
100 MS24693C28	100 MS24693C272
100 MS24693C29	100 MS24693C273
100 MS24693C30	100 MS24693C274

MS24694 BIN KIT

100 MS24694S2	100 MS24694S47
100 MS24694S3	100 MS24694S48
100 MS24694S4	100 MS24694S49
100 MS24694S5	100 MS24694S50
100 MS24694S6	100 MS24694S51
100 MS24694S7	100 MS24694S52
100 MS24694S8	100 MS24694S53
100 MS24694S9	100 MS24694S54
100 MS24694S10	100 MS24694S55
100 MS24694S11	100 MS24694S56
100 MS24694S12	100 MS24694S57
100 MS24694S13	100 MS24694S58

AN525 BIN KIT

100 AN525-832R5	100 AN525-10R7
100 AN525-832R6	100 AN525-10R8
100 AN525-832R7	100 AN525-10R9
100 AN525-832R8	100 AN525-10R10
100 AN525-832R9	100 AN525-10R11
100 AN525-832R10	100 AN525-10R12
100 AN525-832R11	100 AN525-10R14
100 AN525-832R12	100 AN525-10R16
100 AN525-832R14	100 AN525-10R18
100 AN525-832R16	100 AN525-10R20
100 AN525-10R5	50 AN525-416R8
100 AN525-10R6	25 AN525-416R10

STRUCTURAL PAN HD BIN KIT

100 MS27039-0804	100 MS27039-1-07
100 MS27039-0805	100 MS27039-1-08
100 MS27039-0806	100 MS27039-1-09
100 MS27039-0807	100 MS27039-1-10
100 MS27039-0808	100 MS27039-1-11
100 MS27039-0809	100 MS27039-1-12
100 MS27039-0810	100 MS27039-1-14
100 MS27039-0811	100 MS27039-1-15
100 MS27039-0812	100 MS27039-1-16
100 MS27039-1-04	100 MS27039C0808
100 MS27039-1-05	100 MS27039C0809
100 MS27039-1-06	100 MS27039C1-08

PAN HD BIN KIT

100 MS35206-213	100 MS35206-241
100 MS35206-215	100 MS35206-242
100 MS35206-216	100 MS35206-243
100 MS35206-217	100 MS35206-244
100 MS35206-218	100 MS35206-245
100 MS35206-219	100 MS35206-246
100 MS35206-226	100 MS35207-261
100 MS35206-228	100 MS35207-262
100 MS35206-229	100 MS35207-263
100 MS35206-230	100 MS35207-264
100 MS35206-231	100 MS35207-265
100 MS35206-232	100 MS35207-267

NON-STRUCTURAL SCREW BIN KIT

100 MS24693S26	100 AN526-632R10
100 MS24693S28	100 AN526-832R6
100 MS24693S29	100 AN526-832R8
100 MS24693S48	100 AN526-832R10
100 MS24693S50	100 AN526-1032R8
100 MS24693S51	100 AN526-1032R10
100 MS24693S52	100 AN526-1032R12
100 MS24693S272	100 MS35206-228
100 MS24693S273	100 MS35206-230
100 MS24693S274	100 MS35206-245
100 AN526-632R6	100 MS35207-263
100 AN526-632R8	100 MS35207-264

NON-STRUCTURAL S/S SCREW BIN KIT

100 MS24693C26	100 AN526C632R6
100 MS24693C28	100 AN526C632R8
100 MS25693C29	100 AN526C632R10
100 MS24693C30	100 AN526C632R12
100 MS24693C48	100 AN526C832R6
100 MS24693C50	100 AN526C832R8
100 MS24693C51	100 AN526C832R10
100 MS24693C52	100 AN526C832R12
100 MS24693C270	100 AN526C1032R8
100 MS24693C272	100 AN526C1032R10
100 MS24693C273	100 AN526C1032R12
100 MS24693C274	100 AN526C1032R16

Monroe Aerospace Kits do not include compartment bins or cases.

Monroe Aerospace kits include manufacturer name and lot numbers for traceability purposes. All hardware kits consist of 24 items of the most common hardware in the industry. Each kit is discounted 8% less expensive than if parts were purchased separately. Please allow 1 week to ship.

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STRUCTURAL SCREW BIN KIT

100	MS24694S4	100	AN525-832R8
100	MS24694S5	100	AN525-832R10
100	MS24694S6	100	AN525-10R7
100	MS24694S7	100	AN525-10R8
100	MS24694S49	100	AN525-10R9
100	MS24694S50	100	AN525-10R10
100	MS24694S51	100	AN525-10R12
100	MS24694S52	100	MS27039-0807
100	MS24694S53	100	MS27039-0808
100	MS24694S54	100	MS27039-1-08
100	AN525-832R6	100	MS27039-1-09
100	AN525-832R7	100	MS27039-1-10

INSTRUMENT SCREW/NUT BIN KIT

100	MS35214-16	100	MS24693BB28
100	MS35214-20	100	MS24693BB30
100	MS35214-25	100	MS24693BB32
100	MS35214-27	100	MS24693BB34
100	MS35214-28	100	MS24693BB36
100	MS35214-29	25	MS33737-10C
100	MS35214-30	25	MS33737-11C
100	MS35214-31	25	MS33737-12C
100	MS35214-32	25	MS33737-13C
100	MS35214-33	25	MS33737-14C
100	MS35214-42	25	MS33737-15C
100	MS35214-46	25	MS33737-16C

TRUSS HD BIN KIT

100	AN526-632R6	100	AN526C632R6
100	AN526-632R8	100	AN526C632R8
100	AN526-632R10	100	AN526C632R10
100	AN526-632R12	100	AN526C632R12
100	AN526-832R6	100	AN526C832R6
100	AN526-832R8	100	AN526C832R8
100	AN526-832R10	100	AN526C832R10
100	AN526-832R12	100	AN526C832R12
100	AN526-1032R6	100	AN526C1032R6
100	AN526-1032R8	100	AN526C1032R8
100	AN526-1032R10	100	AN526C1032R10
100	AN526-1032R12	100	AN526C1032R12

LOCKNUT/CASTLE NUT BIN KIT

100	MS21044N06	100	MS21083N08
100	MS21044N08	100	MS21083N3
100	MS21044N3	100	MS21083N4
100	MS21044N4	100	AN310-3
50	MS21044N5	100	AN310-4
25	MS21044N6	50	AN310-5
100	MS21045-06	25	AN310-6
100	MS21045-08	100	MS21042L06
100	MS21045-3	100	MS21042L08
100	MS21045-4	100	MS21042L3
50	MS21045-5	100	MS21042L4
25	MS21045-6	50	MS21042L5

CASTLE/PLAIN NUT BIN KIT

100	AN310-3	100	AN315-3R
100	AN310-4	100	AN315-4R
50	AN310-5	50	AN315-5R
25	AN310-6	25	AN315-6R
10	AN310-7	100	AN316-4R
5	AN310-8	50	AN316-5R
100	AN320-3	25	AN316-6R
100	AN320-4	100	MS35649-242
50	AN320-5	100	MS35649-262
25	AN320-6	100	MS35649-282
10	AN320-7	100	MS35650-302
5	AN320-8	100	MS35650-3252

NUTPLATE BIN KIT

100	MS21047L06	100	MS21069L06
100	MS21047L08	100	MS21069L08
100	MS21047L3	100	MS21069L3
100	MS21049L08	100	MS21071L06
100	MS21049L3	100	MS21071L08
100	MS21055L3	100	MS21071L3
100	MS21059L06	100	MS21073L06
100	MS21059L08	100	MS21073L08
100	MS21059L3	100	MS21073L3
50	MS21059L4	100	MS21075L06N
100	MS21061L08	100	MS21075L08N
100	MS21061L3	100	MS21075L3N

TINNERMAN BIN KIT

50	D6187-4Z1	50	A1932-8Z1D
50	A1784-6Z1D	50	A1776-4Z1D
50	A1785-6Z1D	50	A1181-6Z1D
50	A1786-8Z1D	50	A1777-6Z1D
50	A1274-8-1	50	A1778-8Z1D
50	A1789-8Z1D	50	A1779-10Z1D
50	A1348-8Z1D	50	A6195-6Z1D
50	A1787-8Z1D	50	A6195-8Z1D
50	A1788-8Z1D	5	A6912-832-502
50	A1758-10Z1D	100	A3236-012-24A
50	A1350-10Z1D	100	A3135-017-24A
50	A1787-10Z1D	100	A3235-020-24A

GROMMET/GASKET BIN KIT

100	MS35489-4	10	MS35489-15
25	MS35489-5	10	MS35489-16
50	MS35489-6	10	MS35489-17
25	MS35489-7	10	MS35489-18
10	MS35489-8	10	MS35489-19
25	MS35489-9	10	MS35489-20
10	MS35489-10	5	MS35489-22
10	MS35489-11	100	MS35769-6
10	MS35489-12	100	MS35769-8
25	MS35489-13	50	MS35769-11
25	MS35489-134	25	MS35769-21
25	MS35489-14	25	MS35769-48

RING TERMINAL WIRE CAP BIN KIT

100	MS25036-101	100	M7928/5-3
100	MS25036-102	50	M7928/5-4
100	MS25036-103	25	M7928/5-5
100	MS25036-106	100	32446
100	MS25036-108	100	32448
100	MS25036-112	100	MS25274-2
100	MS25036-148	100	MS25274-3
100	MS25036-149	25	D436-36
100	MS25036-150	25	D436-37
100	MS25036-153	25	D436-38
50	MS25036-156	25	D142-50
100	M7928/5-2	25	D142-51

FITTING BIN KIT

10	AN806D4	10	AN929-2
10	AN806D5	10	AN929-3
10	AN806D6	10	AN929-4
10	AN815-4D	10	AN929-5
5	AN815-6D	10	AN929-6
10	AN816-4D	25	MS20819-2D
5	AN816-6D	25	MS20819-3D
10	AN818-4D	25	MS20819-4D
10	AN818-6D	25	MS20819-5D
5	AN824-4D	25	MS20819-6D
5	AN824-6D	5	MS20822-4D
5	AN833-6D	5	MS20823-6D

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

Aerospace Tools

Cherry G704B CherryMAX Riveter Gun

The G704B riveter is a medium duty, pneumatic-hydraulic tool designed, but not limited to, optimum installation of the Cherrymax fasteners. It features the "Cherrymax mounting system" supported by a wide variety of pulling heads and adapters supporting most of our blind fastening system.

SPECIFICATIONS

*** Please note, pulling head is not included.**

Noise Level: 71 dB (A)
Weight: 4 1/4 lbs (1 .93 kg)
Vibration: Less than 2 .5 m/s2
Stroke: 0.510 Inch (12 .954 mm)
Cycle Time: Approximately one second
Air Consumption: 0 .16 SCF/cycle (4 .53 L/cycle)
Pulling Force: 3100 lbs (13 .79 kn @ 90 PSI (6 .2 bar)
Air Pressure: 90 PSI (6 .2 bar) min . / 110 PSI (7 .6 bar) max



Cherry G747 Lightweight CherryMAX Rivet Gun

The G747 riveter is a compact, light duty, pneumatic- hydraulic tool designed, but not limited to, optimum installation of Cherrymax fasteners. It features the "Cherrymax mounting system" supported by a wide variety of pulling heads and adapters supporting most of our blind fastening system.

SPECIFICATIONS

*** Please note, pulling head is not included.**

Noise Level: 71 dB (A)
Weight: 3.5 lbs (1.59 kg)
Stroke: 0.437 inch (11.1 mm
Vibration: less than 2.5 m/s2
Cycle Time: Approximately one second
Air Consumption: 0.09 SCF/ cycle (2.55 L/cycle)
Pulling Force: 2100 lbs (9.34 kN) @ 90 PSI (6.2 bar)
Air Pressure: 90 PSI (6.2 bar) min /110 PSI (7.6 bar) max



Cherry G784 Double Action Hydro-Shift CherryLOCK Rivet Gun

The CherryMax® G784 Hydro-Shift Riveter is a pneumatic-hydraulic tool designed specifically for the most efficient installation of CherryLOCK® Rivets. This powerful tool has been designed with many ergonomic features: lower weight, less recoil, low noise and a comfortable fit in the operator's hand.

Its durable, all metal housing makes this tool extremely robust for use in shop environment. It will install nearly all diameters of CherryLOCK® Rivets up to a half-inch grip, "A" group only. It can be operated in any position with one hand.

SPECIFICATIONS

*** Please note, pulling head is not included.**

Noise level: 69.7 db (a)
Weight: 8 lbs. (3.63 kg)
Stroke: 7/8 inch (22.2 mm)
Vibration: less than 2.5 m/s2
Air consumption: .27 scf/cycle (7.65 l/cycle)
Pulling force: 2,600 lbs. (11.57 kn) @ 90 psi (6.2 bar),
Air pressure: 90 psi (6.2 bar) min. / 110 psi (7.6 bar) max.



Cherry G800 Ergonomic Hand Rivet Gun

This lightweight hand powered riveter is capable of installing a wide variety of blind type fasteners. It comes with an H800 (straight pulling head).

*** Optional pulling heads include the H753A-456 (right angle) and H782 (offset).**

PRODUCT FEATURES

- Cushioned handle & adjustable lever span
- Internal shock absorber to reduce operating shocks
- High-strength steel and aluminum construction
- Visual fluid level indicator
- Leak-proof design with advanced seals

SPECIFICATIONS

Stroke: 0.750" (3/4")
Pulling Force: Adjustable up to 6000 lbs.
Weight: 1.7 lbs.
Overall Height: 6"
Overall Length: 6"

INSTALLS THE FOLLOWING FASTENERS

- CherryMax®
- CherryMax® AB: -4, -5, -6 (except 6 aluminum)
- Blindbolt "S" type: -04 & -05
- MBC Lock Creator: -4, -5, -6
- NAS1900 "U" type: -4 & -5



DOTCO 20,000 RPM Belt Sander 12LF281-36B2

SPECIFICATIONS

Exhaust: Rear
Length: 11.3"
Air Inlet: 1/4"
Weight: 1.4 lbs.
Free speed: 20,000 RPM
Housing Material: Composite
Belt capacity: 1/2"W x 12"L Sanding Belt



DOTCO Right Angle Air Grinder 12LF201-36

SPECIFICATIONS

Length: 6.6"
Exhaust: Front
Weight: 1.1 lbs.
Collet Size: 1/4"
Air Inlet Size: 1/4"
Free Speed: 20,000 RPM
Head Height: 2.7"
Housing Material: composite
Abrasives capacity: 1/2" carbide burr, 1" mounted wheel

Made in USA



⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

Aerospace Tools

Huck Model 200 Double Action Rivet Gun

The Huck Model 200 Installation Tool is designed to install a wide range of fasteners requiring a double action or single action installation tool. Power, speed and accuracy are obtained through a pneumatic-hydraulic intensifier system powered by 90-100 psi air pressure.



*** Please note, pulling head is not included.**

SPECIFICATIONS

Weight: 10-1/2 lbs (4.8kg)
Width (head): 2 inches (51m)
Stroke: 1-3/16 inches (30mm)
Air Required: 18CFM@90-100 psi
Length (overall): 7-1/2 inches (190mm)
Width (cylinder): 4-3/4 inches (121mm)
Height (overall): 13-7/8 inches (352mm)

Huck 2025 Riveter Rivet Gun

The Model 2025 is quick, quiet, and powerful: it installs 35 cycles per minute, gives out only 75dBA, and weighs only 5.8 lbs.

The 2025 has the highest power to weight ratio in its class and handles up to 1/4" blind bolts.

The 2025 is available in three models: with a pintail deflector; with a pintail collection bottle (2025B); or with a vacuum assist pintail collection bottle (2025V)



*** Please note, pulling head is not included.**

SPECIFICATIONS

Stroke: .675" (17,1 mm)
Weight: 5.8 lbs (2,6 kgs)
Noise Level: 75 dbA at 90 psi
Air Pressure: 90-100psi (620-690 kPa)
Minimum Pull Force: 5290 lbs (23 531N)
Air Consumption: 6 CFM (0,004m3/s) based on 30 fastener installations/minute

Huck 244X Pneudraulic Lockbolt Rivet Gun

This Pneudralic tool is heavy duty, reliable, and well suited for high production applications. Powered by 90-100 psi of air pressure, the hydraulic piston develops high pull pressures, producing optimum stroke for efficient one-cycle operations.

> The new generation Model 244X will offer stainless steel sleeves in both the head and the handle, better component wear life and reduced maintenance downtime.

> Additionally, with an upgraded internal relief valve, debris preventing throttle arm guard, the new 244X will significantly out perform its predecessor. Designed to install Lockbolt and blind fasteners up to ¼" diameter at high volume.



*** Please note, pulling head is not included.**

SPECIFICATIONS

Weight: 5.69 lbs.
Air Pressure Required: 90-100 psi
Stroke: 0.562 in.
Pull Force: 4606 lbs.

Jet® R6 Series 3/8" Reversible Air Drill 0.5 HP



- Lightweight aluminum construction.
- Side mounted forward-reverse switch.
- Includes keyed chuck.
- Note: Air Inlet ¼": NPT.
- 3/8"-24 spindle thread.

Ingersoll-Rand Cylindrical Installation Tool W500-30-931

No 'fastener to tool' orientation problems, drives all diameters & grip accommodations. Patented roller bearing drive system allows faster installation removal. A lightweight & compact tool with adjustable clamping.



*** Note: Includes guide bushing for easier fastener installation.**

KATO Prewinder Air Insertion Tool KPA

- The KATO Prewinder Air (KPA) installation tool is designed for medium to high volume users of KATO Tangless and tanged strip-feed package CoilThread inserts (can also be used with bulk inserts).
- The KATO Prewinder Air tool is comprised of the KATO Air Motor (CT25017), KATO Adapter (CT9605 or CT9705), and a Front End Assembly.
- When used together, the KPA tool is capable of installing KATO CoilThread inserts up to 1/2" and M12 coarse and fine thread sizes.



Aerospace Tool Kits

ATS Rivet Gun Kit

- Available in 2X, 3X, and 4X
- Comes standard as the .401 shank but also available in a .498 shank.
- Comes as a 23-piece kit in a sturdy plastic case.



Zephyr Jo-Bolt Installation Kit VLHK-102

This 13 piece kit contains everything you need to install 5/32", 3/16" & 1/4" Jo-bolts in both protruding head and flush styles.

Kit includes:
- Hand Ratchet Tool & Jo-bolt HW300
- Grip Gauge LFVLG-1
- Plastic Storage case



- 3 Flush Type noses
  HW1652
  HW2002
  HW2602
- 3 Protruding Type noses
  HW1652P
  HW2002P
  HW2602P
- 3 Wrench Driver assemblies
  HW1651
  HW2001
  HW2601

Heli-Coil Kits

Heli-Coil Cordless Insertion Tool (7200)

- The Heli-Coil cordless tool is a complete kit (7200) that includes a driver, two batteries (7200-20), 15-minute charger, and mandrel chuck, all in a durable metal box.
- The cordless tool is portable, lightweight, has adjustable torque, and uses standard Heli-Coil electronic tool installation mandrels for quick setup



Heli-Coil Pneumatic Installation Kit (8522)



- This Heli-Coil power tool installation kit (8522) contains an air motor (8510-1), adapter, tools, a filter-regulator-lubricator, oil, two quick-disconnect fittings, and wrenches.
- All are packed in a portable molded box with easy-to-follow operating instructions.
- Front-end assemblies may be ordered separately to fit the sizes of Heli-Coil inserts to be installed.

130 PC SAE Thread Repair Heli-Coil Insert Kit

Stainless steel coils: 25 pc each of
1/4 in. - 20 x 1.5 D
5/16 in. - 18 x 1.5 D
3/8 in. - 16 x 1.5 D
7/16 in. - 14 x 1.5 D
10 pc 1/2 in. - 13 x 1.5 D

130 pc Metric Thread Repair Heli-Coil Insert Kit

Stainless steel coils: 25 pc each of
M5-0.8x1.5D
M6-1.0x1.5D
M8-1.25x1.5D
M10-1.5x1.5D
10 pc of M12-1.75x1.5D



WARN
WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

California Proposition 65

Dear Valued Monroe Customer:

This letter serves as a written notice pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") that Monroe is providing you with information regarding the presence of a chemical or chemicals known to the state of California to cause cancer and/or reproductive toxicity ("Proposition 65-listed chemicals") in Monroe's products. This information is being provided to enable you to determine whether your products, which may be composed in part or whole of Monroe products, could expose an end user/consumer in California in a manner that would require a Proposition 65 warning or, as appropriate, to determine whether such warnings should be provided to any of your employees regarding the potential exposures to a Proposition 65 listed chemical from the use (including through installation and industrial machining) or direct application of Monroe's products.

Because Monroe does not have knowledge of or control over the various ways in which Monroe's products may be used in the manufacture of consumer products that are sold or supplied in California or in occupational settings in California, or as consumer end products, we make no determination as to whether Monroe's products may result in an exposure requiring a warning under Proposition 65 to individuals in California. However, if you determine that a Proposition 65 warning is required based on the anticipated uses of Monroe's products, or other products which may be composed in part of Monroe's products, such warning should be provided consistent with the Article 6 Clear and Reasonable Warnings regulation, 27 C.C.R. § 25600 et. Seq.

Monroe provides you with the following information for Monroe's products manufactured using any of the following raw material alloys (various grades of stainless steel and aluminum compounds) and/or fasteners coated with certain dry lubricants and fasteners that have been plated with certain chemicals, may result in a warning under Proposition 65. Accordingly, we are enclosing warning language and printable warning materials consistent with the Article 6 Clear and Reasonable Warnings regulation, 27 C.C.R. § 25600 et. Seq.

August 2018 California Proposition 65 Warning Statements

For more information on California Prop 65 go to **www.P65Warnings.ca.gov**

Reference	Prop 65 Warning Statement
Cobalt compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Cobalt, which is known to the State of California to cause cancer. For more information go to www.P65W arnings.ca.gov.
Nickel compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Titanium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Titanium, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Vanadium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Vanadium, which is known to the State of California to cause cancer. For more information go to www.P65W arnings.ca.gov.
Hexavalent chromium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to chemicals including Stainless Steel which may contain Hexavalent Chromium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Dry Lubricants Lead Based Compounds and products (SDS ID 1276)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Lead: Lead oxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Dry Lubricants Antimony Based compounds and products (SDS ID 1286)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Cadmium Plated Fasteners compounds and products (SDS ID 1102)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Cadmium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warninqs.ca.gov.
Fasteners, Steel Bolts, Collars and Rivets compounds and products (SDS ID 1357)	California Proposition 65 **WARNING:** This product can expose you to Cobaltous Sulfate, Heptahydrate, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Dry Lubricant - Strontium Chromate Based compounds and products (SDS ID 1287)	California Proposition 65 **WARNING:** This product can expose you to 1,2-Benzenedicarboxylic Acid, Bis(2-ethylhexyl) ester: Strontium Chromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Dry Film Lubricant - Lead and Antimony Based compounds and products (SDS ID 1362)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Antimony trioxide: Trilead Dioxide Phosphonate, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Stainless Steel Fasteners compounds and products (SDS ID 1363)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Nickel: Cobalt, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Aluminum Rivets compounds and products (SDS ID 1364)	California Proposition 65 **WARNING:** This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Rubber Products

Cobalt compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Cobalt, which is known to the State of California to cause cancer. For more information go to www.P65W arnings.ca.gov.
Nickel compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Nickel, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Titanium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Titanium, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Vanadium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to Vanadium, which is known to the State of California to cause cancer. For more information go to www.P65W arnings.ca.gov.
Hexavalent chromium compound containing materials and product	California Proposition 65 **WARNING:** This product can expose you to chemicals including Stainless Steel which may contain Hexavalent Chromium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Dry Lubricants Lead Based Compounds and products (SDS ID 1276)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Lead: Lead oxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
Dry Lubricants Antimony Based compounds and products (SDS ID 1286)	California Proposition 65 **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
Cured Rubber Articles	California Proposition 65 **WARNING:** This product can expose you to chemicals including: 1,3-Butadiene, Ethylene Oxide, and Carbon Black, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ **WARNING:** Cancer and Reproductive Harm - *www.P65Warnings.ca.gov*

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