

## Full-Line Catalogue Vol. 2

### Aerospace & Mil-Spec Hardware and Supplies



Online eStore [www.aastore.com.au](http://www.aastore.com.au)

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Catalogue Cover Image: F-35A Lightning II RAAF Base Williamtown.

Image courtesy of Department of Defence



[www.aastore.com.au](http://www.aastore.com.au)

## Create a Free Online Account



eStore customers can quickly and easily order hardware, knowing local and international stock levels as well as the corresponding tier price.

**Sign up for a free account today!**

## Local and International Warehouses



### Australia

Albury, NSW 2640

### USA East Coast

Melbourne, FL 32904

 **500+**  
Defence & Industry  
Customers

 **97%**  
On Time Delivery

 **99.8%**  
Accuracy

 **100%**  
Customer Satisfaction

## Who we are.

Australian Aerospace Engineering Pty Ltd (AAE) is a Part 145 Maintenance Repair and Overhaul facility, manufacturer of aeronautical products and distributor of aerospace hardware. As an Australian owned SME, AAE has a rich 32 year history of supporting Defence and industry in Australia.

Since launching the eStore in 2017 AAE has grown to become a preferred supplier for many customers across Australasia. After 10,000 shipments of hardware to over 500 customers in Australia, New Zealand and Asia, AAE has achieved 97% On-Time Delivery and over 99% accuracy. This exceptional level of customer service is underpinned by AAE's AS9100D, AS9110C, AS9120B and ISO9001 : 2015 quality accreditations.



## OUR MISSION

*To keep our customers flying by delivering outstanding solutions across MRO, manufacturing and parts distribution.*

## Distributorship

Australian Aerospace Engineering is an exclusive stocking distributor for Monroe Aerospace to the Australian market, for aerospace and Mil-Spec hardware.

Like AAE, Monroe Aerospace is an AS9100D & ISO 9001:2015 certified company that is committed to customer satisfaction and continuous improvement. It is a privilege to work with Monroe and their team as we strive to offer an exceptional service.

**sales@aaestore.com.au | p: +61 (02) 60262614**



**www.aaestore.com.au**

# Customer Testimonials



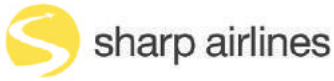
Stavros Tsolakides  
Projects Director – Pennant Australasia

“We have enjoyed an excellent working relationship with AAE. They regularly deliver to us MRO, manufacturing, product distribution services and aviation engineering solutions. AAE are a professional outfit that have delivered outstanding solutions to Pennant Australasia and have been pivotal in helping us grow our regional capability. Great job!”

“The crew at AAE has been terrific to work with. They manage a great eCommerce website and offer fantastic customer service. Thanks for your support guys!”



Bryan Sharan  
Warehouse & Logistics – Toll Helicopters



Phil Haua  
Stores and Logistics - Sharp Airlines

“The team at AAE have been crucial to our operation at Sharp Airlines. Providing excellent customer service, professional advice and often going above and beyond – particularly when sourcing unique, time-critical parts from across the globe, and delivering them on time, every time. This, coupled with an extremely helpful and friendly team (giving that personal touch), I couldn’t recommend them highly enough. Thank you guys, keep up the great work.”

“The team at AAE has successfully supported Babcock with aerospace fasteners for some time now. They have great technical knowledge and offer personalised customer service. Thanks for your support!”



trusted to deliver™  
Courtney Mitchell  
Babcock Australasia



## Warehouse Location

AAE’s hardware warehouse is situated in Albury, NSW. Albury is a major transport hub for rail, truck and air and has over 180 commercial flights into the airport each week. This means overnight shipment can normally be achieved across Australia through all major freight carriers.

## AAE Quality Systems

AAE is committed to customer satisfaction, continual improvement and supplying parts and services in accordance with the company’s Quality Management System Manual and Procedures (QMS).

The QMS meets the Aerospace and Defence AS9100D, AS9110C, AS9120B, ISO9001:2015 and CASA Part 145 standards.



## Pricing

AAE uses a tier based pricing structure that offers discounted rates as a function of volume purchased. Create an online account at [aaestore.com.au](http://aaestore.com.au) to view prices and stock on hand.

## Payment

AAE accepts Paypal, MasterCard and VisaCard payments online. In order to keep overall prices low, there is a purchase order minimum. Refer to [aaestore.com.au](http://aaestore.com.au) for the current threshold.

## Shipping

In general, orders received before the afternoon cutoff time will ship the same day. Refer to [aaestore.com.au](http://aaestore.com.au) for the current cutoff time. All orders received after this time will promptly ship the following business day. Large orders may ship the following day, depending on what time the order was received. Please advise at checkout whether you want the order held and consolidated, or split shipped.

For any order processed with "Customer Account" as the shipping option (including international orders) AAE will make contact to arrange the shipment, if a preferred courier account is not held on file.

## Packaging

The standard packaging comes with your PO number (if supplied), part number, description, manufacturer, lot number, and our company Goods Receipt Number. Please advise if you require any additional information on packaging, or packaging to your specifications. AAE can accommodate most packaging needs. Charges may apply for packaging requirements that significantly affect the process time of the order.

## Back Orders

AAE will make every effort to ship your order complete. If any items are back ordered to you, AAE will endeavour to ship those items in a timely manner. Where possible shipments will be consolidated to reduce freight costs.

## Certification

Manufacturer's certifications are on file for all aerospace and Mil-Spec fasteners. All parts are shipped with an AAE certificate of conformance with the lot number and/or control number. Please advise at the time of your order if you would like a copy of the manufacturer's certification shipped with your parts. AAE reserves the right to charge an administrative fee for this service.

## CAGE Code

For Australian Government customers, AAE is a Defence Recognised Supplier with cage code Z0WH1.

## Acceptance / Return of Merchandise

A Return Merchandise Authorisation (RMA) report issued by AAE must accompany any returned items. No credit will be issued on any parts returned without an RMA. AAE must be notified of any discrepancies or shortages within 7 days of receipt of your shipment for a credit to be issued. Delivery of quantities within three percent (+/-3%) of requested quantities shall be deemed a fulfilled supply. Credits and RMA's will not be issued beyond 7 days after items have been received. Parts must be in the original packaging with the original quantity sold, for a credit to be given.

AAE generally does not charge a restocking fee if the parts ordered are regular stock items. Any parts brought in specifically to fill your order, if returnable, will be subject to a 50% restocking fee. Any specialty parts ordered are non-returnable.





CH-47F at Mount Hagen Airport during Operation PNG Assist 2018  
Image courtesy of Department of Defence

## What else does AAE do?

In addition to AAE's aerospace and Mil-Spec hardware offering, AAE supplies Maintenance, Repair and Overhaul (MRO) and precision manufacturing services to Defence and commercial industry. Now, a new and exciting service offering is the manufacture and supply of Aeroquip® hose assemblies.

**Aerospace MRO** | **Precision Manufacturing** | **Parts Distribution** | **Aerospace Hose Shop**





*Powering Business Worldwide*



## AEROSPACE HOSE SHOP

On the 10th of Dec 2020 AAE and Eaton signed a Memorandum of Understanding to establish a TSO approved aerospace hose shop in Australia, supplying hose assemblies and fluid conveyance products from the Aeroquip® product line. This capability within the Australasian region will support the Australian Defence Force and commercial industry with an important sovereign capability. AAE will be approved to manufacture and repair a wide range of low, medium and high pressure aerospace hose assemblies, tested and certified to the highest possible quality control requirements.

"We've engaged with Eaton as they are the world-leading OEM of fluid conveyance products, and we are excited to be launching the Aerospace Hose Shop. Having discussed this capability with our well established customer base across Defence and industry, we are confident our Hose Shop will be a welcomed addition to our existing product and service offerings." Viv Johnston, Sales Manager.



**Eaton products are installed on ADF platforms including the F-35 Joint Strike Fighter, Boeing CH-47 Chinook, F/A-18 Super Hornet and Growler, KC-30A MRTT, C27J Spartan, C-17A Globemaster, Lockheed Martin C-130 Hercules, Hawk 127 and Sikorsky S-70 Black Hawk.**

### Why Eaton?

Eaton's broad portfolio of hydraulic, conveyance, fuel, pneumatic, and electrical products delivers safe, reliable and efficient solutions for aircraft, with an emphasis on lower lifecycle costs, system integration, optimized system controls and reduced weight. Eaton components lead the industry in reliability and can be found on virtually all major commercial and military aircraft platforms. AAE is proud to be working with Eaton in support of Australian Defence and commercial industry, supplying the known and trusted Aeroquip® product line.

**Contact us today for your hose requirements!**

Contact: [hoses@austaerospace.com](mailto:hoses@austaerospace.com)

Website: [www.austaerospace.com](http://www.austaerospace.com)

# AUSTRALIAN AEROSPACE ENGINEERING PRODUCT LINE

AERODUCT DUCTING  
AEROQUIP® FIRESLEEVE  
AEROQUIP® FITTINGS  
AEROQUIP® HOSE  
AIRCRAFT WIRE  
AIRLOC® FASTENERS  
ANCHOR NUTS  
BEARINGS  
BLACK BRASS SCREWS  
BLIND RIVET NUTS & TOOLING  
BRACKETT AIR FILTERS  
BOLTS  
- AN, MS, NAS  
BONDING JUMPERS  
BUSHINGS  
BUTT SPLICES  
CABLE CUTTERS  
CABLE HARDWARE  
CABLE TIES  
CAMLOC® FASTENERS  
CAMLOC® PLIERS  
CAPPLUGS  
CHERRY® ALL BLIND RIVETS  
CHERRY® RIVET TOOLING  
CIRCUIT BREAKERS  
CLAMPS  
CLECO® FASTENERS  
CLECO® TOOLING  
CLEVIS BOLTS  
CLEVIS PINS  
CLEVIS ROD ENDS  
CONICAL SEALS  
CONTINENTAL PRODUCTS  
CONTROL CABLE  
COTTER PINS  
COVER GASKETS  
COWLING MOUNTS  
CRIMP SPLICES  
CURTIS DRAIN VALVES  
DELRON® INSERTS  
DRILL BITS  
DRILL JIGS (PLATE NUT)  
DRILL STOPS  
DYKEM® CROSSCHECK  
DZUS® FASTENERS  
ELECTRICAL COMPONENTS  
EXHAUST GASKETS  
EYE BOLTS  
FILLISTER HEAD SCREWS  
FITTINGS  
- AN & MS  
- AEROQUIP®  
- NYLON & BRASS

FLOATING CLIP NUTS  
FUSES  
GASKETS  
GREASE FITTINGS  
GROMMETS  
GROMMET EDGING  
HARDWARE KITS  
HEAT SHRINK TUBING  
HI-LOK® PINS 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  
LYCOMING PRODUCTS  
MONEL RIVETS  
NICROPRESS® SLEEVES  
NIPPLE, ELECTRICAL  
NITRILE GLOVES  
NUTS  
- AN, MS, NAS  
- BARREL NUTS  
- CASTLE NUTS  
- CHECK NUTS  
- CLIPNUTS  
- EB NUTS  
- EXHAUST NUTS  
- INSTRUMENT NUTS  
- JAM NUTS  
- METRIC NUTS  
- NYLON CAP NUTS  
- PIPER CLIP NUTS  
- SELF LOCKING NUTS  
- TINNERMAN® NUTS  
- WING NUTS  
- 12 POINT NUTS  
NUTPLATES  
O'RINGS  
PACKINGS  
PANEL FASTENERS  
PANEL INSERTS

PATCH PLATES  
POP RIVETS & TOOLING  
POTTER BRUMFIELD® BREAKERS  
PULLEYS  
PULLEY GUARD PIN  
QUARTZ LAMPS  
RETAINING RINGS  
RIVETS  
RING TERMINALS  
SAFETY WIRE  
SCAT / SCEET HOSE  
SCREWLOCK ASSEMBLIES  
SCREWS  
- AN, MS & NAS  
- DRIVE SCREWS  
- FILLISTER HEAD  
- HEX HEAD  
- INSTRUMENT  
- OHMSC  
- SET SCREWS  
- SHEET METAL  
- SOCKET HEAD  
- TAPPING  
- WASHER HEAD  
SEALED BEAM LAMPS  
SHACKLES  
SILICONE COVER GASKETS  
SOLDER SLEEVES  
SOLID RIVETS  
SOUTHCO® FASTENERS  
SPACERS  
SPLIT PINS  
SPIRAL WRAP  
SPRING PINS  
SWITCH GUARDS  
SWITCHES  
TERMINAL BOARD ASSEMBLIES  
TERMINAL LINKS  
THIMBLES, CABLES  
THIXO GREASE  
TIE WRAPS  
TINNERMAN® NUTS  
TINNERMAN® WASHERS  
TOGGLE SWITCHES  
TOOLING  
TRIDAIR® PRODUCTS  
TURNBUCKLE HARDWARE  
WARNING STREAMERS  
WASHERS  
WATER DETECTORS  
WIRE  
WIRE CAPS

# MANUFACTURER'S DIRECTORY

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

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*Australian Aerospace Engineering has manufacturer's certification available  
on request for all Aerospace and Mil-Spec hardware.*

## Australian Warehouse

Albury, NSW, 2640

## USA Warehouse

Melbourne, FL 32904





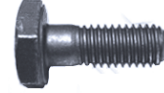
## AN3 AIRFRAME BOLT (10 - 32 Thread)



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		AN3C	AN3C
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		AN3H	AN3H
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

## AN4 AIRFRAME BOLT (1/4-28 Thread)



AN4-#A (Undrilled Shank)

AN4-# (Drilled Shank)

DESCRIPTION		AN4- Undrilled	AN4- Drilled
Length	Grip		
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 Undrilled	AN4C Drilled
Length	Grip		
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 DRILLED HEAD (1/4-28 Thread)



AN4H#A (Undrilled Shank)

AN4H# (Drilled Shank)

DESCRIPTION		AN4H#A Undrilled
Length	Grip	
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



## 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

## AN173 Close Tolerance Bolt (.1900-32 Thread)



AN173-#A (Undrilled Shank)

AN173-# (Drilled 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)



AN174-#A (Undrilled Shank)

AN174-# (Drilled 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)



AN175-#A (Undrilled Shank)

AN175-# (Drilled 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)



AN176-#A (Undrilled Shank)

AN176-# (Drilled 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
3A	1/6	15/32
4A	1/8	17/32
5A	1/4	21/32
6A	3/8	25/32
7A	1/2	29/32
10A	5/8	1 - 1/32
11A	3/4	1 - 5/32
12A	7/8	1 - 9/32
13A	1	1 - 13/32
14A	1 - 1/8	1 - 17/32
15A	1 - 1/4	1 - 21/32
16A	1 - 3/8	1 - 25/32
17A	1 - 1/2	1 - 29/32
20A	1 - 5/8	2 - 1/32

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

## CLEVIS BOLT

AN21 (#6 Dia.) thru AN37 (1" Dia.)

P/N Examples: AN23-#A (10-32 Undrilled 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

Materials: "C" - CAD II Plated Steel, "R" - Chrome Plated Corrosion Resistant Steel  
 "Effective Length" measured from under the head to the top of the shank hole



Effective Length	MS20392 1/8" Dia.	MS20392 3/16" Dia.	MS20392 1/4" Dia.
.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



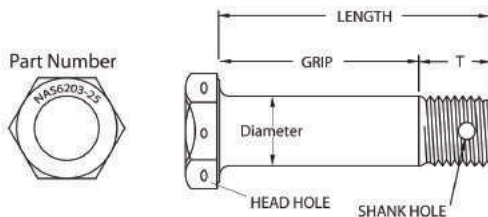
## NAS6203 Close Tolerance Bolt (Short .1900-32 Thread)



NAS6203-# (Undrilled)  
 NAS6203-#H (Drilled Head) NAS6203-#D (Drilled Shank)

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

Supersedes NAS464P3 and NAS1103 Series



## NAS6204 Close Tolerance Bolt (Short .2500-28 Thread)



NAS6204-# (Undrilled)  
 NAS6204-#H (Drilled Head) NAS6204-#D (Drilled Shank)

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

Supersedes NAS464P4 and NAS1104 Series

## NAS6205 Close Tolerance Bolt (Short .3125-24 Thread)



NAS6205-# (Undrilled)  
 NAS6205-#H (Drilled Head)    NAS6205-#D (Drilled Shank)

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

**Supersedes NAS464P5 Series  
and NAS1105 Series**

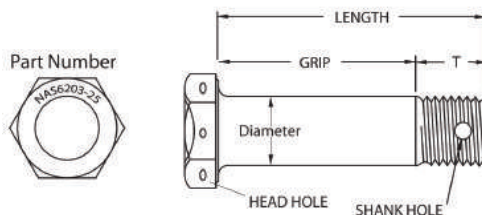
## NAS6206 Close Tolerance Bolt (Short .3750-24 Thread)



NAS6206-# (Undrilled)  
 NAS6206-#H (Drilled Head)    NAS6206-#D (Drilled Shank)

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

**Supersedes NAS464P6 Series and  
NAS1106 Series**





## NAS6603 Close Tolerance Bolt (Long .1900-32 Thread)



NAS6603-# (Undrilled)  
 NAS6603H# (Drilled Head) NAS6603D# (Drilled Shank)

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
1.470	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

## NAS6604 Close Tolerance Bolt (Long .2500-28 Thread)

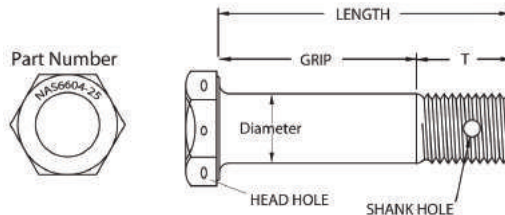


NAS6604-# (Undrilled)  
 NAS6604H# (Drilled Head) NAS6604D# (Drilled Shank)

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

### Supersedes NAS1303 Series

### Supersedes NAS1304 Series







## NAS6605 Close Tolerance Bolt (Long .3125-24 Thread)



## NAS6606 Close Tolerance Bolt (Long .3750-24 Thread)



NAS6605-# (Undrilled)  
 NAS6605H# (Drilled Head)    NAS6605D# (Drilled Shank)

NAS6606-# (Undrilled)  
 NAS6606H# (Drilled Head)    NAS6606D# (Drilled Shank)

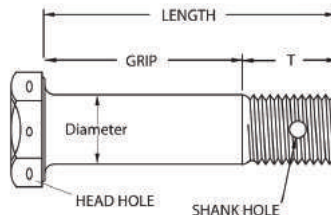
Description		NAS6605-	NAS6605
Length	Grip ± .010	Undrilled	Drilled
.594	.125	2	D2
.657	.188	3	D3
.719	.250	4	D4
.781	.312	5	D5
.844	.375	6	D6
.907	.438	7	D7
.969	.500	8	D8
1.031	.562	9	D9
1.094	.625	10	D10
1.157	.688	11	D11
1.219	.750	12	D12
1.281	.812	13	D13
1.344	.875	14	D14
1.407	.938	15	D15
1.469	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

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

**Supersedes NAS1306 Series**

**Supersedes NAS1305 Series**

Part Number



## 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 FLUSH HEAD BOLT 100°

"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 FLUSH REDUCED HEAD BOLT 100°

"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	---

## 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
		<b>1/4-28</b>	<b>5/16-24</b>	<b>3/8-24</b>
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

12 Point Head 180 KSI Strength

\* See note at bottom of this page Example P/N MS21250-04016 (1/4-28 Thread with 1.000" Grip)



MS21250 Second Dash #	Grip ± .010	Thread, First Dash # & Total Length			
		.1900-32	.2500-28	.3125-24	.3750-24
		<b>-03</b>	<b>-04</b>	<b>-05</b>	<b>-06</b>
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 Bolt

12 Point Head, 180 KSI Strength

\* See note at bottom of this page



Dash #	Grip	Basic Part #, Thread & Total Length		
		NAS624-	NAS626-	NAS626-
		<b>.2500-28</b>	<b>.3750-24</b>	<b>.3750-24</b>
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 - NAS1804, NAS1805, 42FLW & 47FLW (see page 115, 116)



## 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

12 Point 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

12 Point Machine Bolt  
Drilled & 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

12 Point 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



## MS20033 MS20034

Hexagon  
Machine Bolt  
1200° F



Dash #	Grip	Thread, Basic Part # & Length	
		.1900-32 MS20033	.2500-28 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



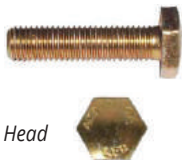
Dimensions		10-24 Thread	1/4-20 Thread
Length	Grip	MS20074	MS20074
.344	.062	-03-02	---
.469	.062	-03-03	-04-03
.594	.062	-03-04	-04-04
.656	.125	-03-05	-04-05
.781	.250	-03-06	-04-06
.906	.375	-03-07	-04-07
1.031	.500	-03-10	-04-10
1.156	.625	-03-11	-04-11
1.281	.750	-03-12	-04-12
1.406	.875	-03-13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

## NAS428

Crowned Hexagon Head Bolt,  
Adjusting

"K" Indicates Slotted Shank

"KH" Indicates Slotted Shank & 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



## NAS560HK

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



Dash #	Grip	Thread, Basic Part # & Length	
		.1640-32 NAS560HK2	.1900-32 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 NAS1202	.1900-32 NAS1203	.2500-28 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 Thread



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 Aluminium Coating



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



## NAS4503U, NAS4504U

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



Dash #	Grip	Thread, Basic Part # & Length	
		.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
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 Aluminium  
6AL -4V Titanium Alloy, Aluminium Coated





## 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
13	.812	1.135
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 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,  
Aluminium 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



## NAS514P

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



Thread	Length	NAS514P
.1120-40 (4-40)	.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 (6-32)	.250	632-4P
	.312	632-5P
	.375	632-6P
	.438	632-7P
	.500	632-8P
	.625	632-10P
	.750	632-12P
	1.00	632-16P
.1640-32 (8-32)	.250	832-4P
	.312	832-5P
	.375	832-6P
	.438	832-7P
	.500	832-8P
	.625	832-10P
	.750	832-12P
	1.00	832-16P
.1900-32 (10-32)	.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



Thread	Length	NAS387
.1380-32 (6-32)	1/2	632-8P
	5/8	632-10P
	3/4	632-12P
	7/8	632-14P
	1	632-16P
.1640-32 (8-32)	1/2	832-8P
	5/8	832-10P
	3/4	832-12P
	7/8	832-14P
	1	832-16P
.1900-32 (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-
.1120-40 (4-40)	.250	4P
	.312	5P
	.375	6P
	.500	8P
	.625	10P
	.750	12P
Thread	Length	NAS601-
.1380-32 (6-32)	.250	4P
	.375	6P
	.438	7P
	.500	8P
	.625	10P
	.750	12P
	.875	14P
1.00	16P	
Thread	Length	NAS602-
.1640-32 (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
.1900-32 (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-
.2500-28 (1/4-28)	3/8	6P
	1/2	8P
	5/8	10P
	3/4	12P
	7/8	14P
	1	16P

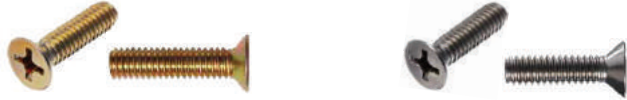


## MS24693 (AN507)

100° Flat Head

Machine Screw, Non-Structural

Example P/N MS24693-C52 (8-32 Thread Corrosion Resistant with 3/4" Length)



Thread Size	Length	CARBON STEEL		CORROSION RESISTANT
		MS24693-	AN507-	MS24693-
.1120-40 (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
.1380-32 (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
.1640-32 (8-32)	1-1/8	S33	632R18	C33
	1-1/4	S34	632R20	C34
	1-1/2	S36	632R24	---
	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
.1900-32 (10-32)	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
	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	

Course Thread 1/4-20 Screws available MS24693-S91 thru MS24693-S110 (Alt: AN507-448R14 thru AN507-518R20)

Fine Thread 1/4-28 Screws available MS24693-S292 thru MS24693-S310 (Alt: AN507-518R24 thru AN507-616R12)



## MS24693 (AN507)

100° Flat Head  
Machine Screw, Non-Structural



Thread Size	Length	CARBON STEEL	CORROSION RESISTANT
		MS24693-	MS24693-
.2500-28 (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. MS24693-S2 THRU MS24693-S8
100 EA. MS24693-S24 THRU MS24693-S30
100 EA. MS24693-S46 THRU MS24693-S54
100 EA. MS24693-S270 THRU MS24693-S276
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. MS24693-S24 THRU MS24693-S30
100 EA. MS24693-S48 THRU MS24693-S52
100 EA. MS24693-S270 THRU MS24693-S274
100 EA. MS24693-C24 THRU MS24693-C30
100 EA. MS24693-C48 THRU MS24693-C52
100 EA. MS24693-C270 THRU MS24693-C274

### 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. MS24693-C4 THRU MS24693-C8
100 EA. MS24693-C24 THRU MS24693-C30
100 EA. MS24693-C46 THRU MS24693-C52
100 EA. MS24693-C270 THRU MS24693-C276
100 EA. MS24694-C3 THRU MS24694-C7
100 EA. MS24694-C48 THRU MS24694-C52

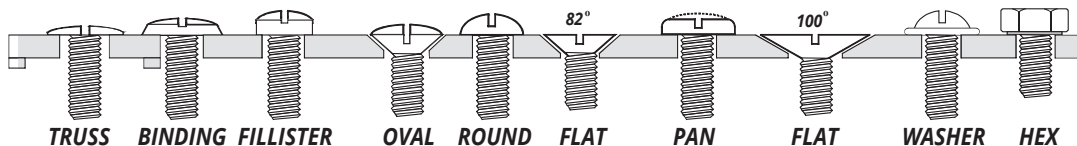
### STAINLESS SCREW KIT #2

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. MS24693-C24 AND MS24693-C30
100 EA. MS24693-C46 THRU MS24693-C54
100 EA. MS24693-C270 THRU MS24693-C276
100 EA. MS24694-C5 THRU MS24694-C9
100 EA. MS24694-C48 THRU MS24694-C54

## FASTENER HEAD STYLES





## MS24694 (AN509)

100° Flat Head Screw

Structural Machine Screw

Example P/N MS24694-S53 (10-32 Thread Carbon Steel Screw with 1/4" Grip and 23/32" Length)



Thread Size	Length	Grip	CARBON STEEL		CORROSION RESISTANT
			MS24694-	AN509	MS24694-
.1640-32 (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
.1900-32 (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	---	



## MS24694 (AN509)

100° Flat Head Screw,  
Structural Machine Screw



Thread Size	Length	Grip	CARBON STEEL		CORROSION RESISTANT
			MS24694-	AN509	MS24694-
.2500-28 (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 Thread

"S" Indicates Steel Alloy

"D" Indicates Cadmium Plated Steel Alloy

"C" Indicates Corrosion Resistant Steel

"P" Indicates Passivated, Corrosion Resistant Steel

Part #	Length	Grip	Part #	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: PE21101-3-10SD)



(Image of: PE21101-3-6CP)

### STRUCTURAL SCREW KIT #1

100 ea.	MS24694-S3	Thru	MS24694-S7
100 ea.	MS24694-S48	Thru	MS24694-S54
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.	MS24694-S3	Thru	MS24694-S9
100 ea.	MS24694-S48	Thru	MS24694-S58
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.	MS24694-S3	Thru	MS24694-S7
100 ea.	MS24694-S48	Thru	MS24694-S54
100 ea.	MS24694-C3	Thru	MS24694-C7
100 ea.	MS24694-C48	Thru	MS24694-C54
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



## AN526

Truss Head  
Machine Screw  
Non-Structural



Thread	Length	Carbon Steel	Corrosion Resistant
		AN526-	AN526
.1120-40 (4-40)	3/8	440R6	C440R6
	1/2	440R8	C440R8
.1380-32 (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
.1640-32 (8-32)	1 - 1/4	632R20	---
	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
.1900-32 (10-32)	1	832R16	C832R16
	1 - 1/8	832R18	---
	1 - 1/4	832R20	C832R20
	1 - 1/2	832R24	---
	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-
.0860-56 (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
	1/8	11
.1120-40 (4-40)	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
.1380-32 (6-32)	1	21
	1-1/2	23
	3/16	25
	1/4	26
	5/16	27
	3/8	28
	7/16	29
	1/2	30
	5/8	31
	3/4	32
.1640-32 (8-32)	7/8	33
	1	34
	1 - 1/4	35
	1 - 3/8	125
	1 - 1/2	36
	1 - 3/4	37
	2	38
	1/4	41
	5/16	42
	3/8	43
.1900-24 (10-24)	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
	1/2	63
	5/8	64
	3/4	65
	5/16	60
	3/8	61
	7/16	62
	1/2	63
	5/8	64
	3/4	65
	7/8	66
	1	67
.1900-32 (10-32)	1 - 1/4	68
	1 - 1/2	69
	1 - 3/4	70



## MS35206 (AN515)

Pan Head, Machine Screw,  
Non-Structural, Course Thread  
60 KSI Min Ultimate Tensile



Thread	Length	MS35206-	AN515-
.0860-56 (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
.1120-40 (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	
.1380-32 (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	238	6R18
	1 - 1/4	235	6R20
	1 - 1/2	236	6R24
1 - 3/4	237	6R28	
2	238	6R32	
.1640-32 (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	
.1900-24 (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  
60 KSI Min Ultimate Tensile



Thread	Length	MS35207-	AN520-
.1380-40 (6-40)	1/4	226	6R4
	3/8	228	6R6
	1/2	230	6R8
	3/4	232	6R12
.1640-36 (8-36)	5/16	242	8R5
	3/8	243	8R6
	1/2	245	8R8
	5/8	246	8R10
.1900-32 (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
.2500-28 (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 KSI, Alloy Steel



Thread	Length	Grip	NAS623-	
.1640-32 (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	
	.1900-32 (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, Alloy Steel,  
125 KSI Min Ultimate Tensile



Thread	Length	Grip	MS27039-
.1640-32 (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	
.1900-32 (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	
.2500-28 (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,  
Cross-Recessed, Corrosion Resistant,  
130 KSI Min Ultimate Tensile



Thread	Length	Grip	MS27039
.1640-32 (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
	.1900-32 (10-32)	.344	---
.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 Aluminium Alloy,  
62 KSI Min Ultimate Tensile



Thread	Length	Grip	MS27039
.1640-32 (8-32)	.406	---	DD0806
	.469	---	DD0807
	.531	.094	DD0808
	.656	.219	DD0810
	.781	.344	DD0812
	.906	.469	DD0814
	1.031	.594	DD0816
.1900-32 (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





## AN525

Washer Head Screw  
Structural, Alloy Steel



Thread	Length	Grip	AN525-
.1640-32 (8-32)	5/16	1/32	<b>832R5</b>
	3/8	1/32	<b>832R6</b>
	7/16	1/16	<b>832R7</b>
	1/2	1/8	<b>832R8</b>
	9/16	5/32	<b>832R9</b>
	5/8	7/32	<b>832R10</b>
	11/16	9/32	<b>832R11</b>
	3/4	11/32	<b>832R12</b>
	7/8	15/32	<b>832R14</b>
	1	19/32	<b>832R16</b>
	1 - 1/8	23/32	<b>832R18</b>
	1 - 1/4	27/32	<b>832R20</b>
	1 - 3/8	31/32	<b>832R22</b>
	1 - 1/2	1-3/32	<b>832R24</b>
1 - 5/8	1-7/32	<b>832R26</b>	
.1900-32 (10-32)	1/4	1/32	<b>10R4</b>
	5/16	1/32	<b>10R5</b>
	3/8	1/32	<b>10R6</b>
	7/16	1/16	<b>10R7</b>
	1/2	1/8	<b>10R8</b>
	9/16	5/32	<b>10R9</b>
	5/8	7/32	<b>10R10</b>
	11/16	9/32	<b>10R11</b>
	3/4	11/32	<b>10R12</b>
	7/8	15/32	<b>10R14</b>
	1	19/32	<b>10R16</b>
	1 - 1/8	23/32	<b>10R18</b>
	1 - 1/4	27/32	<b>10R20</b>
	1 - 3/8	31/32	<b>10R22</b>
1 - 1/2	1-3/32	<b>10R24</b>	
1 - 5/8	1-7/32	<b>10R26</b>	
1 - 3/4	1-11/32	<b>10R28</b>	
.2500-28 (1/4-28)	7/16	1/16	<b>416R7</b>
	1/2	1/8	<b>416R8</b>
	9/16	5/32	<b>416R9</b>
	5/8	7/32	<b>416R10</b>
	3/4	11/32	<b>416R12</b>
	7/8	15/32	<b>416R14</b>
	1	19/32	<b>416R16</b>
1 - 1/4	27/32	<b>416R20</b>	
1 - 1/2	1-3/32	<b>416R24</b>	

## AN525D

Washer Head  
Machine Screw,  
Structural, Aluminium



Thread	Length	Grip	AN525
.1900-32 (10-32)	3/8	1/32	<b>D10R6</b>
	7/16	1/16	<b>D10R7</b>
	1/2	1/2	<b>D10R8</b>
	9/16	5/32	<b>D10R9</b>
	5/8	7/32	<b>D10R10</b>
	11/16	9/32	<b>D10R11</b>
3/4	11/32	<b>D10R12</b>	

## NAS517

Close Tolerance  
100° Flat Head Screw



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



**MS35214 (AN515B)** (Course Thread)

**MS35215 (AN520B)** (Fine Thread)

Pan Head

Black Brass, Instrument Screw



Thread	Length	MS35214-	AN515B	
.1120-40 (4-40)	1/4"	<b>12</b>	440R4	
	5/16"	<b>13</b>	440R5	
	3/8"	<b>14</b>	440R6	
	5/16"	<b>15</b>	440R7	
	1/2"	<b>16</b>	440R8	
	5/8"	<b>17</b>	440R10	
	3/4"	<b>18</b>	440R12	
	1"	<b>20</b>	440R16	
.1380-32 (6-32)	5/16"	<b>24</b>	632R5	
	3/8"	<b>25</b>	632R6	
	7/16"	<b>26</b>	632R7	
	1/2"	<b>27</b>	632R8	
	5/8"	<b>28</b>	632R10	
	3/4"	<b>29</b>	632R12	
	7/8"	<b>30</b>	632R14	
	1"	<b>31</b>	632R16	
	1-1/4"	<b>32</b>	632R20	
	1-1/2"	<b>33</b>	632R24	
	1-3/4"	<b>34</b>	632R28	
	2"	<b>35</b>	632R32	
	.1640-32 (8-32)	3/8"	<b>40</b>	832R6
		1/2"	<b>42</b>	832R8
5/8"		<b>43</b>	832R10	
3/4"		<b>44</b>	832R12	
7/8"		<b>45</b>	832R14	
1"		<b>46</b>	832R16	
1-1/4"		<b>47</b>	832R20	
1-1/2"		<b>48</b>	832R24	
2"	<b>50</b>	832R32		
Thread	Length	MS35215-	AN520B	
.1900-32 (10-32)	1/2"	<b>55</b>	1032R8	
	5/8"	<b>56</b>	1032R10	
	3/4"	<b>57</b>	1032R12	
	1"	<b>59</b>	1032R16	
	1-1/4"	<b>60</b>	1032R20	
1-1/2"	<b>61</b>	1032R24		

**MS24693-#B**

100° Flush Head

Machine Screw

Corrosion Resistant Steel,

Black Oxide Coating



Thread	Length	MS24693-
4-40	5/16"	<b>3B</b>
	3/8"	<b>4B</b>
6-32	3/8"	<b>26B</b>
	1/2"	<b>28B</b>
8-32	1/2"	<b>50B</b>
	5/8"	<b>51B</b>
10-32	3/4"	<b>274B</b>

**MS24693-BB**

**(AN507B)**

100° Flush Head

Black Brass, Instrument Screw



Thread	Length	MS24693-	AN507B
.1120-40 (4-40)	1/4"	<b>BB2</b>	440R4
	3/8"	<b>BB4</b>	440R6
	1/2"	<b>BB6</b>	440R8
	5/8"	<b>BB7</b>	440R10
	3/4"	<b>BB8</b>	440R12
	1"	<b>BB10</b>	440R16
.1380-32 (6-32)	1/4"	<b>BB24</b>	632R4
	5/16"	<b>BB25</b>	632R5
	3/8"	<b>BB26</b>	632R6
	7/16"	<b>BB27</b>	632R7
	1/2"	<b>BB28</b>	632R8
	5/8"	<b>BB29</b>	632R10
	3/4"	<b>BB30</b>	632R12
	7/8"	<b>BB31</b>	632R14
	1"	<b>BB32</b>	632R16
	1-1/8"	<b>BB33</b>	632R18
	1-1/4"	<b>BB34</b>	632R20
	1-1/2"	<b>BB36</b>	632R24
2"	<b>BB40</b>	632R32	
.1640-32 (8-32)	3/8"	<b>BB48</b>	832R6
	1/2"	<b>BB50</b>	832R8
	5/8"	<b>BB51</b>	832R10
	3/4"	<b>BB52</b>	832R12
	7/8"	<b>BB53</b>	832R14
	1"	<b>BB54</b>	832R16
	1-1/4"	<b>BB56</b>	832R20
	1-1/2"	<b>BB58</b>	832R24
2"	<b>BB62</b>	832R32	
.1900-32 (10-32)	1/2"	<b>BB272</b>	1032R8
	5/8"	<b>BB273</b>	1032R10
	3/4"	<b>BB274</b>	1032R12
1"	<b>BB276</b>	1032R16	

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

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

Pan Head Machine Screw, Phillips,

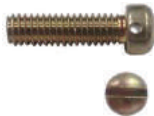
Corrosion Resistant, Black Oxide Coating



Thread	Length	MS51957-
.1120-40 (4-40)	1/4"	<b>13B</b>
	5/16"	<b>14B</b>
	3/8"	<b>15B</b>
	7/16"	<b>16B</b>
	1/2"	<b>17B</b>
	7/8"	<b>20B</b>
.1380-32 (6-32)	5/16"	<b>27B</b>
	7/16"	<b>29B</b>
	1/2"	<b>30B</b>
	3/4"	<b>32B</b>
	7/8"	<b>33B</b>
.1640-32 (8-32)	1"	<b>34B</b>
	3/8"	<b>43B</b>
	7/16"	<b>44B</b>
	1/2"	<b>45B</b>
	5/8"	<b>46B</b>
.1900-32 (10-32)	3/4"	<b>47B</b>
	Thread	Length
.1900-32 (10-32)	7/16"	<b>62B</b>
	1/2"	<b>63B</b>
	5/8"	<b>64B</b>
	3/4"	<b>65B</b>

## MS35265, MS35266

Fillister Head, Machine Screw,  
Drilled, Slotted  
MS35265 - Course Thread, UNC  
MS35266 - Fine Thread, UNF



Thread Size	Length	MS35265-	AN500	
.1120-40 (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	-	
.1380-32 (6-32)	1-1/4"	22	-	
	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	
.1640-32 (8-32)	3/4"	32	A6-12	
	1"	34	A6-16	
	1-1/2"	36	A6-24	
	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	
.1900-24 (10-24)	5/8"	46	A8-10	
	3/4"	47	A8-12	
	7/8"	48	A8-14	
	1"	49	A8-16	
	1/4"	59	A10-4	
	5/16"	60	A10-5	
	3/8"	61	A10-6	
	7/16"	62	A10-7	
.1900-32 (10-32)	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	----	
	.1900-32 (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  
Fine Thread, UNF



Thread	Length	AN502-10
.1900-32 (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  
Course Thread, UNC



Thread	Length	AN503-6
.1380-32 (6-32)	1/4"	-4
	3/8"	-6
	1/2"	-8
	5/8"	-10
Thread	Length	AN503-8
.1640-32 (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
.1900-24 (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
.2500-20 (1/4-20)	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
	.438	3-7
.1900-32 (10-32)	.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



Thread	Length	ALLOY STEEL		STAINLESS STEEL	
		NAS1352-	MS16997-	NAS1352	MS16995-
.0860-56 (2-56)	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 (4-40)	1/4	04-4P	9	C04-4	9
	3/8	04-6P	10	C04-6	10
	1/2	04-8P	11	C04-8	11
	5/8	04-10P	12	C04-10	12
	3/4	04-12P	13	C04-12	13
.1380-32 (6-32)	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 (8-32)	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
Thread	Length	NAS1351-	MS16998-	NAS1351	MS16996-
.1900-32 (10-32)	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 (1/4-28)	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



Thread	Length	ALLOY STEEL		STAINLESS STEEL	
		NAS1352-	MS24677-	NAS1352	MS24674-
.1380-32 (6-32)	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 (8-32)	3/8	08H6P	14	C08H6	7
	1/2	08H8P	15	C08H8	8
	5/8	08H10P	16	C08H10	9
Thread	Length	NAS1351-	MS24678-	NAS1351	MS24673-
.1900-32 (10-32)	3/8	3H6P	9	C3-6	1
	1/2	3H8P	10	C3-8	2
	5/8	3H10P	11	C3-10	3
	3/4	3H12P	12	C3-12	4
.2500-28 (1/4-28)	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

## 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

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

Flat Point 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	D8H2	D1032H5
D4H3	D6H3	D8H3	D1032H6
D4H4	D6H4	D8H4	D1032H8
D4H5	D6H5	D8H6	D1032H9

## NAS1153

100° Close Tolerance Machine Screw  
Short Thread, Offset Cruciform  
160 KSI Min Ultimate Tensile  
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 Aluminium Coating per NAS4006  
Titanium Alloy: **No Code Letter** after Dash # designates No Plating  
Letter **"A"** after Dash # designates Aluminium 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

## 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 #	Length	Part #
.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,  
125-145 KSI Ultimate Tensile



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



**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
No. 8	7/8	6-14	6-14
	3/8	8-6	8-6
	1/2	8-8	8-8
	5/8	8-10	8-10
No. 10	3/4	8-12	8-12
	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  
 10-32 Short Thread  
 Offset Cruciform



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

### MS51861 (AN530)

MS51861 Type A Point



Pan Head Tapping Screw,  
 Add "C" after Dash # for  
 Corrosion Resistant (MS51861 ONLY)

AN530 Type B Point



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



Thread	Length	MS35190-	AN505-
.1120-40 (4-40)	.250	221	440R4
	.312	222	440R5
	.375	223	440R6
	.438	224	440R7
	.500	225	440R8
.1380-32 (6-32)	.625	226	440R10
	.250	234	632R4
	.375	236	632R6
	.500	238	632R8
	.625	239	632R10
.1640-32 (8-32)	.750	240	632R12
	.312	250	832R5
	.375	251	832R6
	.438	252	832R7
	.500	253	832R8
.1900-32 (10-32)	.625	254	832R10
	.750	255	832R12
	1.000	257	832R16
	.250	268	1032R4
.1900-32 (10-32)	.375	270	1032R6
	.500	272	1032R8
	.625	273	1032R10
	.750	274	1032R12

## SHEET METAL SCREW

Phillips Recess



Truss Head		Flat Head 82°		Pan Head Type "A" Point	
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" Point



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" Point



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" Point



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



## POP RIVETS

Non-Structural,  
Commercial Grade, Domed

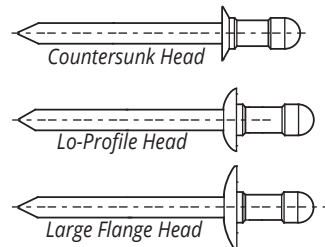


<b>Aluminium Rivet / Aluminium Mandrel - SMALL FLANGE</b>			
Diameter	Grip Range	POP	Marson
3/32	.032 - .125	AD32ABS	AB3-2A
	.126 - .250	AD34ABS	AB3-4A
	.251 - .375	AD36ABS	AB3-6A
1/8	.063 - .125	AD42ABS	AB4-2A
	.126 - .187	AD43ABS	AB4-3A
	.188 - .250	AD44ABS	AB4-4A
	.251 - .312	AD45ABS	AB4-5A
	.313 - .375	AD46ABS	AB4-6A
5/32	.062 - .125	AD52ABS	AB5-2A
	.126 - .187	AD53ABS	AB5-3A
	.188 - .250	AD54ABS	AB5-4A
<b>Aluminium Rivet / Aluminium Mandrel - LARGE FLANGE</b>			
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
<b>Aluminium Rivet / Steel Mandrel - SMALL FLANGE</b>			
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
<b>Aluminium Rivet / Steel Mandrel - LARGE FLANGE</b>			
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,  
Aluminium 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	Low Profile Head
		1661-0512	
1/8	.031 - .187	1601-0410 New Rev. 1693-0410 Old Rev.	Small Flange
		5/32	
1693-0512			







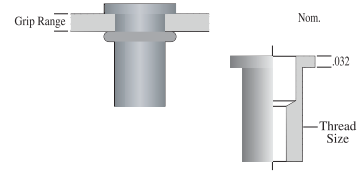
## NAS1329, MS27130

Blind Rivet Nuts, Flat Head, Internal Thread\*  
Keyed (K) and, Unkeyed

\*Note: May include Rivnut® brand blind rivet nuts

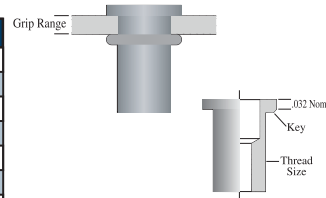
### UNKEYED

Thread	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	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

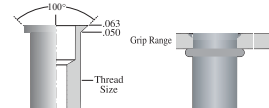


## NAS1330, MS27130

Blind Rivet Nuts, Countersunk Head, Internal Thread\*  
Keyed (K) and Unkeyed

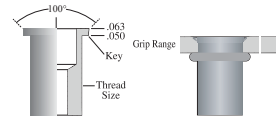
### UNKEYED

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



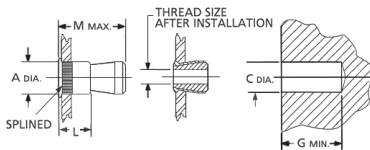
### KEYED

Thread	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



### Material Thickness

Thread	Part #	A min.	L ±.05	M max.	G Dim.			
					.03-.09	.091-.124	.125-.186	.187 - >
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



## 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

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

100° 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

100° 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-
.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

## MS90353

\*Alternate: CR7310

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



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

\*Alternate: CR7311

Blind Rivet, Protruding Head  
High Strength, Alloy Steel 112 KSI



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	
3/16	.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		

\*NOTE: Cherry part number alternates may use a different lock washer and require a different pulling head nose piece.  
Check relevant datasheets on the AAE eStore before selecting an alternate part number.



**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

**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

**NAS1456** (.190 Dia.)

**NAS1458** (.250 Dia.)

Pin, Swage Locking

Steel, Standard

100° Tension Head, 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

**NAS1465** (.164 Dia.)

**NAS1466** (.190 Dia.)

**NAS1468** (.250 Dia.)

Pin, Swage Locking, Steel,

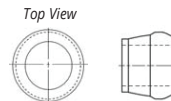
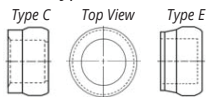
Standard & Protruding Tension Head, Pull-Type



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

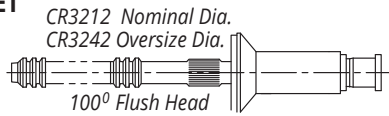


Shear				Tension						
NAS Part #	Nom. Size	Total Length		NAS Part #	Nom. Size	Total Length				
		Min.	Max.			Min.	Max.			
NAS1080C06	.190	.185	.205	NAS1080-05	.164	.170	.200			
NAS1080E06				NAS1080AT05						
NAS1080G06				NAS1080R05						
NAS1080AG06				NAS1080-06						
NAS1080C08	.250	.220	.236	NAS1080-06	.190	.233	.263			
NAS1080E08				NAS1080R06						
NAS1080G08				NAS1080-08				.250	.305	.335
NAS1080AG08				NAS1080R08						
"C" indicates 2024 Aluminium "E" indicates Carbon steel		"G" indicates 2024 Aluminium alloy "AG" indicates 2219 Aluminium		"-" indicates 2024 Aluminium "AT" indicates 2219 Aluminium Alloy		"R" indicates Carbon steel				



**CHERRYMAX® RIVET**  
**CR3212, CR3213**  
**CR3242, CR3243**

*Alloy Steel Stem*  
*Aluminium Rivet*



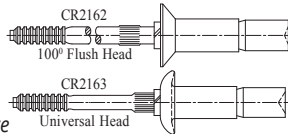
Diameter	Grip Range	CR3212-	Diameter	Grip Range	CR3213-
1/8	.025 - .062	---	1/8	.025 - .062	4-01
	.063 - .125	4-02		.063 - .125	4-02
	.126 - .187	4-03		.126 - .187	4-03
	.188 - .250	4-04		.188 - .250	4-04
	.251 - .312	4-05		.251 - .312	4-05
	.313 - .375	4-06		.313 - .375	4-06
	.376 - .437	4-07		.376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



## CHERRYLOCK® RIVET

(WIREDRAW)

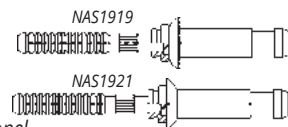
**CR2162**  
**CR2163**



7075 Aluminium Stem  
2017 Aluminium 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

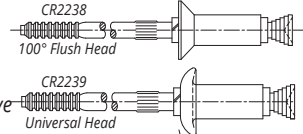


100° Flush Head,  
Blind Rivet, Bulbed, Monel,  
Mechanically-Locked  
Spindle "S" after first dash number  
indicates for use with single action,  
non-shifting tooling

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
.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
.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**

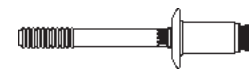


Inconel 600 Stem  
5056 Aluminium Sleeve  
Monel Lock Ring

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	---

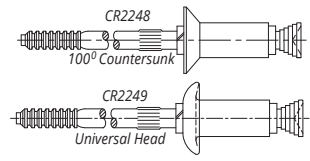
## CHERRYLOCK® BULBED RIVET CR2245

Aluminium 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



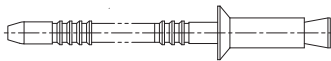
Alloy Steel Stem  
Aluminium Sleeve

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
5/32	.313 - .375	4-06	4-06
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
3/16	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
	.063 - .125	6-02	6-02
	.126 - .187	6-03	6-03
	.188 - .250	6-04	6-04
	.251 - .312	6-05	6-05
3/16	.313 - .375	6-06	6-06



## CCR264

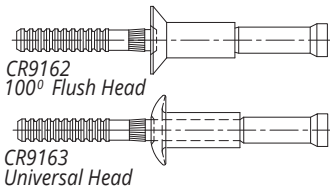
Cherry Nutplate Rivet  
100° Countersunk Head



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

Self-Plugging,  
Serrated Stem  
Aluminium Stem  
& Rivet



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

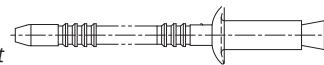
AAPQ  
5052 Aluminium Rivet  
7178 Aluminium Mandrel



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

## CCR274

Cherry Nutplate Rivet  
Universal Head

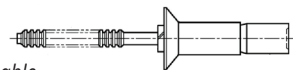


Dia.	Grip Range	Carbon Steel CCR274	Corrosion Resistant CCR274
3/32	.046 - .062	SS3-01	CS3-01
	.063 - .125	SS3-02	CS3-02
	.126 - .187	SS3-03	CS3-03
	.188 - .250	SS3-04	CS3-04
	.251 - .312	SS3-05	CS3-05
	.313 - .375	SS3-06	CS3-06
	.376 - .437	SS3-07	CS3-07
	.438 - .500	SS3-08	CS3-08

## CHERRYLOCK® 'A' RIVET CR2672

Replaces CR1122 Series  
A286 Stem & Sleeve

Dia. 3/32" thru 1/4" available

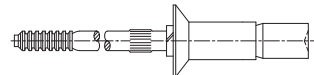


Diameter	Grip	CR2672-
3/32	.063 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
	.251 - .312	3-05

## CHERRY® RIVET CR2662

Wiredraw  
Countersunk Head  
A286 Stem and Sleeve

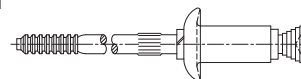
Dia. 3/32" thru 1/4" available



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  
Aluminium Rivet  
Steel Stem

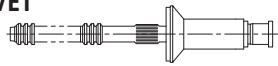


Diameter	Grip Range	CR9117-
3/32	.063 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04



## CHERRYMAX® RIVET CR3214

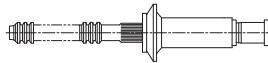
Alloy Steel Stem  
Aluminium Alloy Sleeve  
100° Flush Shear Head



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
	.126 - .187	8-03
1/4	.188 - .250	8-04
	.251 - .312	8-05
	.313 - .375	8-06

## CHERRYMAX® RIVET CR3245

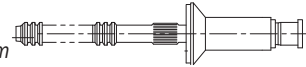
Unisink Head/ Oversize Diameter  
Alloy Steel Stem,  
Aluminium Alloy Sleeve



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
	.063 - .125	5-02
.173	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
	.063 - .125	6-02
	.126 - .187	6-03
.201	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06
	.376 - .437	6-07

## CHERRYMAX® RIVET CR3224

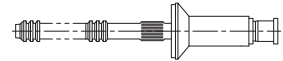
Corrosion Resistant Stem  
Aluminium Alloy Sleeve  
100° Flush Shear Head



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
	.065 - .125	5-02
5/32	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
	.080 - .125	6-02
	.126 - .187	6-03
3/16	.188 - .250	6-04
	.251 - .312	6-05
	.313 - .375	6-06
	.376 - .437	6-07
	.438 - .500	6-08

## CHERRYMAX® RIVET CR3524

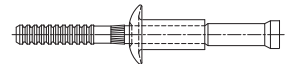
Corrosion Resistant Stem  
Monel Sleeve  
100° Flush Shear Head



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 Aluminium Stem  
2017 Aluminium Sleeve



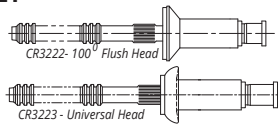
Diameter	Grip Range	CR9179-
1/8	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04





## CHERRYMAX® RIVET CR3222 CR3223

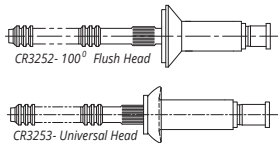
Corrosion  
Resistant Stem  
Aluminium Alloy Rivet



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
	.063 - .125	6-02	6-02
3/16	.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

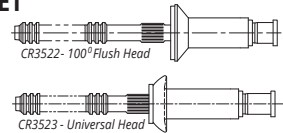
Corrosion Resistant Stem  
Aluminium Alloy Rivet  
Oversize Diameter



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

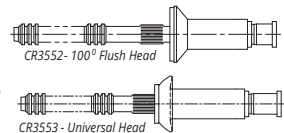
Corrosion  
Resistant Stem  
Monel Rivet



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  
Monel Rivet  
Oversize Diameter



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
	.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



## MS20426AD

Solid Rivet

2117-T4, Aluminium 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	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	



## MS20470AD

Solid Rivet

2117-T4, Aluminium 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



## MS20426D, MS20470D

Solid Rivet, 2017-T4 Aluminium 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
5/32	1/2	D4-8	5/32	1/2	D4-8
	1/4	D5-4		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
3/16	9/16	D5-9	3/16	9/16	D5-9
	5/8	D5-10		5/8	D5-10
	3/8	D6-6		3/8	D6-6
	7/16	D6-7		7/16	D6-7
3/16	1/2	D6-8	3/16	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 Aluminium Alloy



MS20426 100° FLUSH HEAD			MS20470 UNIVERSAL HEAD		
Diameter	Length	MS20426	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
3/16	5/8	E5-10	3/16	5/8	E5-10
	1/4	E6-4		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
3/16	9/16	E6-9	3/16	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
.156	.500	M4-8
	.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 Aluminium 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
.188	.250	KE6-4
	.312	KE6-5
	.375	KE6-6
	.438	KE6-7
	.500	KE6-8



**MS20426A  
MS20470A**

Solid Rivet  
Soft Rivet, 1100-F  
Aluminium 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  
Aluminium 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	

## MS20427M

Monel Rivet  
100° Countersunk



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	

## 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
1/4		F4-4
5/16		F4-5
3/8		F4-6
7/16		F4-7
1/2		F4-8
5/32		3/8
	7/16	F5-7
	1/2	F5-8

## 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	



## NAS1097AD

100° Flush Shear Head,  
2117-T4 Aluminium 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	.250	.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
.156	.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
	.125	AD5-2		.750	AD8-12
	.188	AD5-3		.813	AD8-13
.156	.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 Aluminium 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	.188	.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, Oversize Diameter  
100° Flush Shear Head  
2117-T4 Aluminium 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
.172	.750	AD4-12
	.250	AD5-4
	.312	AD5-5
	.375	AD5-6
	.438	AD5-7
	.500	AD5-8
	.562	AD5-9
	.625	AD5-10
.219	.750	AD5-12
	.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, Oversize Diameter  
Universal Head  
2117-T4 Aluminium 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 Aluminium Alloy



Diameter	Length	Part #	Allfast P/N	Diameter	Length	Part #	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		





## RIVETS PER POUND REFERENCE TABLE

### MS20426 (Aluminium)

#### 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	1683	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 (Aluminium)

#### 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 (Aluminium)

#### 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

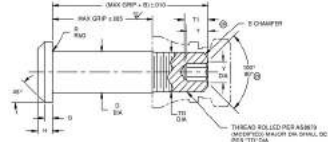
THE ABOVE QUANTITIES ARE FOR YOUR CONVENIENCE AND ARE APPROXIMATED





## HL20 HI-LOK®

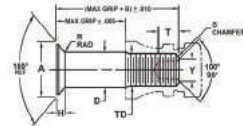
Protruding Tension Head  
160,000 - 180,000 PSI  
Tensile Strength  
Alloy Steel



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	8-32 UNJC-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	1/4-28 UNJF-3A Modified	9,300	5,820
Max Grip		8-32 Thread 5/32 Nominal Diameter			10-32 Thread 3/16 Nominal Diameter			1/4-28 Thread 1/4 Nominal Diameter		
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®

100° Flush Tension Head  
160,000 - 180,000 PSI,  
Tensile Strength  
Alloy Steel

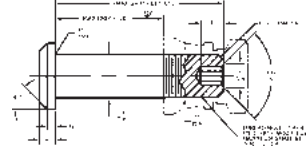


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	
-5	5/32	.3304 .3256	.312	.1635 .1625	.1595 .1570	.0700 .0680	8-32 UNJC-3A Modified	4,010	2,180	
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32 UNJF-3A Modified	5,380	3,180	
-8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



## HL62 HI-LOK®

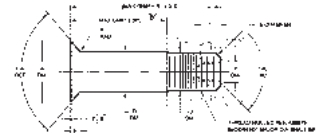
Protruding Shear Head  
1/64 Oversize for HL18  
95,000 PSI Shear MIN.  
Alloy Steel, 160,000 - 180,000  
PSI Tensile Strength



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									<b>NOTE: Use HL18PB6</b>			
-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	1/4-28 UNJF-3A Modified	10,490	4,300	
Max Grip				10-32 Thread 13/64 Nominal Diameter					1/4-28 Thread 17/64 Nominal Diameter			
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®

100° Flush Shear Head  
1/64 Oversize for HL19  
95,000 PSI Shear MIN.  
Alloy Steel, 160,000 - 180,000  
PSI Tensile Strength

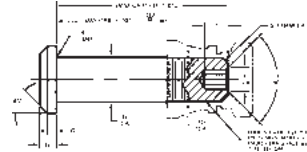


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Dia.	Thread	Double Shear Pounds Min.	Tension Pounds Min.	
-5									<b>NOTE: Use HL19PB6</b>			
-6	13/64	.3016 .2966	.325	.2026 .2016	.1840 .1810	.035	.074 .064	.025 .015	10-32 UNJF-3A Modified	6,130	2,000	
-8	17/64	.3948 .3898	.395	.2651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



## HL64 HI-LOK®

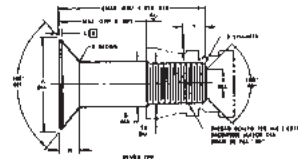
Protruding Tension Head  
1/64 Oversize for HL20  
Alloy Steel  
160,000 - 180,000  
PSI Tensile Strength



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5								<b>NOTE: Use HL20PB6</b>		
-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	1/4-28 UNJF-3A Modified	10,490	5,820
Max Grip		10-32 Thread 13/64 Nominal Diameter					1/4-28 Thread 17/64 Nominal Diameter			
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®

100° Flush Tension Head  
1/64 Oversize for HL21  
Alloy Steel  
160,000 - 180,000  
PSI Tensile Strength

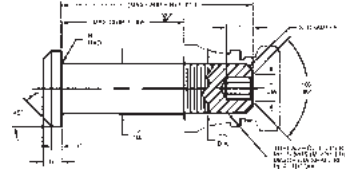


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	
-5								<b>NOTE: Use HL21PB6</b>		
-6	13/64	.3813 .3765	.325	.2026 .2016	.1840 .1810	.0750 .0730	10-32 UNJF-3A Modified	6,130	3,180	
-8	17/64	.5066 .5018	.395	.2651 .2641	.2440 .2410	.1013 .0993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



## HL218 HI-LOK®

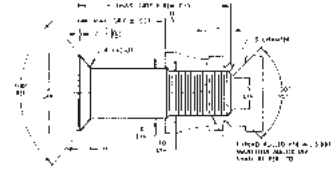
*Protruding Shear Head  
1/32 Oversize for HL18  
95,000 PSI Shear  
160,000 - 180,000 PSI  
Tensile Strength*



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					<b>NOTE: Use HL62PB6</b>					
-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	1/4-28 UNJF-3A Modified	11,800	4,300
Max Grip		10/32 Thread 7/32 Nominal Diameter				1/4-28 Thread 9/32 Nominal Diameter					
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®

*100° Flush Shear Head  
1/32 Oversize for HL19  
95,000 PSI Shear  
160,000 - 180,000 PSI  
Tensile Strength*

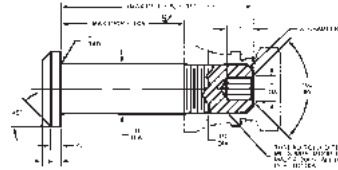


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64					<b>NOTE: Use HL63PB6</b>			
-6	7/32	.3303 .3253	.325	.2182 .2172	.1840 .1810	.0470 .0449	10-32 UNJF-3A Modified	7,100	2,000
-8	9/32	.4260 .4210	.395	.2807 .2797	.2440 .2410	.0610 .0589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



## HL220 HI-LOK®

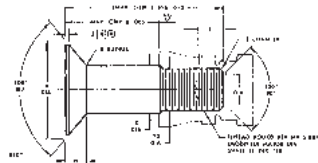
Protruding Tension Head  
 1/32 Oversize for HL20  
 95,000 PSI Shear  
 160,000 - 180,000 PSI  
 Tensile Strength



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							<b>NOTE: Use HL64PB6</b>		
-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	1/4-28 UNJF-3A Modified	11,800	5,820
Max Grip		10-32 Thread 7/32 Nominal Diameter				1/4-28 Thread 9/32 Nominal Diameter				
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®

100° Flush Tension Head  
 1/32 Oversize for HL21  
 95,000 PSI Shear  
 160,000 - 180,000 PSI  
 Tensile Strength

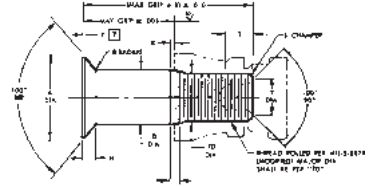


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	
-5	13/64							<b>NOTE: Use HL65PB6</b>		
-6	7/32	.3813 .3765	.325	.2182 .2172	.1840 .1810	.0684 .0664	10-32 UNJF-3A Modified	7,100	3,180	
-8	9/32	.5066 .5018	.395	.2807 .2797	.2440 .2410	.0948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



## HL325 HI-LOK®

100° Flush Shear Head  
MS20426 Head Style  
Interference Application  
180,000 - 200,000 PSI  
Tensile Strength

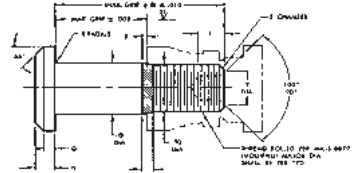


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	F	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.2922 .2874	.312	.1650 .1640	.1595 .1570	.004	.0534 .0514	8-32 UNJC-3A Modified	4,560	2,100	-2
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.005	.0688 .0667	10-32 UNJF-3A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

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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	8-32 UNJC-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

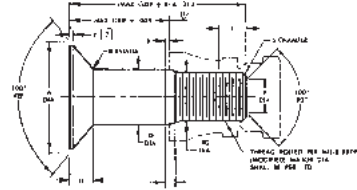
Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
1/8	HL326-5-2	HL326-6-2
3/16	HL326-5-3	HL326-6-3
1/4	HL326-5-4	HL326-6-4
5/16	HL326-5-5	HL326-6-5
3/8	HL326-5-6	HL326-6-6
7/16	HL326-5-7	HL326-6-7
1/2	HL326-5-8	HL326-6-8
9/16	HL326-5-9	HL326-6-9
5/8	HL326-5-10	HL326-6-10





## HL327 HI-LOK®

100° Flush Tension Head  
MS24694 Head Style  
Interference Application  
160,000 - 180,000 PSI  
Tensile Strength

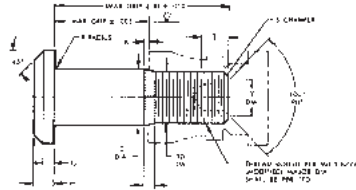


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.3304 .3256	.312	.1650 .1640	.1595 .1570	.0694 .0674	8-32 UNJC-3A Modified	4,010	2,180	-2
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32 UNJF-3A Modified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

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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



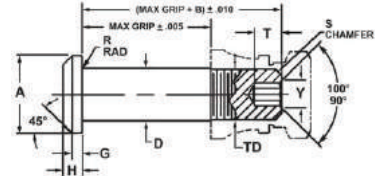
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.262 .242	.312	.1650 .1640	.1595 .1570	.020	.047 .037	8-32 UNJC-3A Modified	4,580	2,200	-2
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.025	.055 .045	10-32 UNJF-3A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

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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



## HL22 HI-LOK®

Protruding Shear Head  
Aluminium Alloy  
45,000 PSI Shear Strength

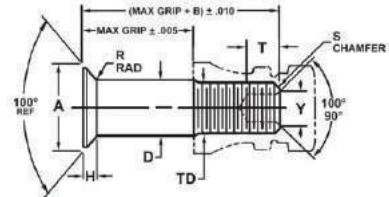


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.312	.1635 .1625	.1595 .1570	.030	.060 .045	8-32 UNJC-3A Modified	1760	940
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.035	.074 .055	10-32 UNJF-3A Modified	2540	1240

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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®

100° Flush Shear Head  
Aluminium Alloy  
45,000 PSI Shear Strength

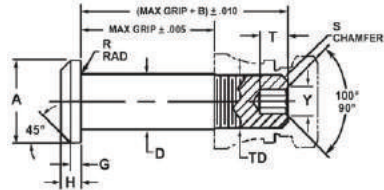


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2922 .2874	.312	.1635 .1625	.1595 .1570	.0540 .0520	8-32 UNJC-3A Modified	1700	860
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.0688 .0667	10-32 UNJF-3A Modified	2540	1150

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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



## HL30 HI-LOK®

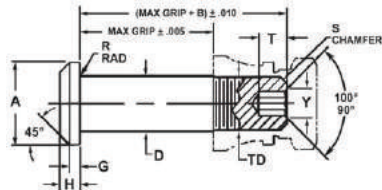


Protruding Shear Head  
431 Stainless Steel

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		10-32 Thread 3/16 Nominal Diameter
	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  
1/16<sup>th</sup> Grip Variation

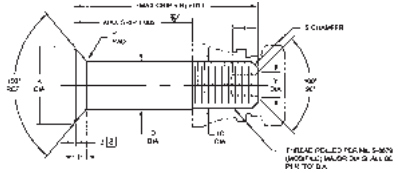
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-4	1/8	.240 .225	.294	.1375 .1370	.1375 .1365	.1335 .1310	.020	.042 .032	6-32	2,840	1,350
-5	5/32	.262 .242	.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	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
	1/8	HL40-4-2	HL40-5-2
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



## HL41 HI-LOK®

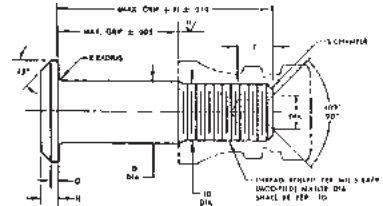
100° Flush Shear Head  
A-286 High Temp Alloy  
95,000 PSI Shear Min.



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 tube	with coating or solid film tube					
-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			8-32 Thread 5/32 Nominal Diameter			10-32 Thread 3/16 Nominal Diameter		
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  
1/16<sup>th</sup> Grip Variation

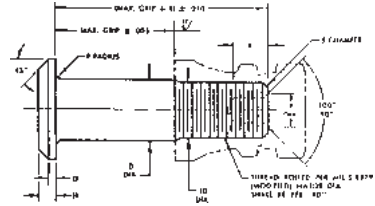


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film tube	with coating or solid film tube						
-5	5/32	.322 .308	.312	.1635 .1630	.1635 .1625	.1595 .1570	.030	.060 .055	8-32	4,010	2,180
-6	3/16	.377 .357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



## HL50 HI-LOK®

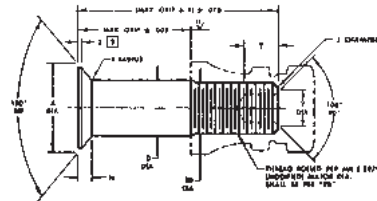
Protruding Shear Head  
 Alloy Steel, 3/32 Grip Variation  
 95,000 PSI Shear Min.  
 160,000 - 180,000 PSI  
 Tensile Strength



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	8-32 UNJC-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					10-32 Thread 3/16 Nominal Diameter			
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



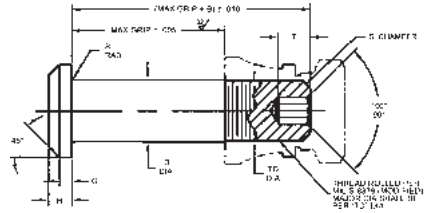
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	
-5	5/32	.2612 .2564	.342	.1635 .1625	.1595 .1570	.0410 .0390	8-32 UNJC-3A Modified	4,010	1,290	
-6	3/16	.3036 .2966	.355	.1895 .1885	.1840 .1810	.0470 .0450	10-32 UNJF-3A Modified	5,380	2,000	
Max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



## HST10AG HI-LOK®

Protruding Shear Head  
Titanium, 1/16<sup>th</sup> Grip Variation  
95,000 PSI Shear Min.

"AG" Hi-Kote 1 Aluminium coating per  
Hi Shear Spec. 294 and cetyl alcohol  
lube per Hi Shear spec. 305



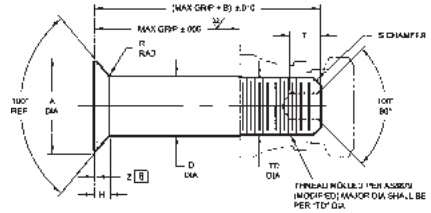
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.		TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
				w/out lube	w/ lube						
-5	5/32	.262 .242	.280	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32 UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.290	.1895 .1890	.1895 .1885	.1840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

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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<sup>th</sup> Grip Variation  
95,000 PSI Shear Min.

"AG" Hi-Kote 1 Aluminium 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.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
				w/out lube	w/ lube					
-5	5/32	.2612 .2564	.280	.1635 .1630	.1635 .1625	.1595 .1570	.0410 .0390	8-32 UNJC-3A Modified	4,010	1,650
-6	3/16	.3016 .2966	.290	.1895 .1890	.1895 .1885	.1840 .1810	.0470 .0450	10-32 UNJF-3A Modified	5,380	2,000

Max Grip	8-32 Thread 5/32 Nominal Diameter	10-32 Thread 3/16 Nominal Diameter
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

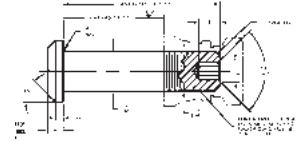




## HL10 HI-LOK®

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

Protruding Shear Head  
Titanium  
95,000 PSI Shear Minimum

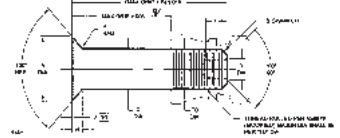


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.262 .242	.312	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32	4,010	1,940
-6	3/16	.315 .295	.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®

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

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

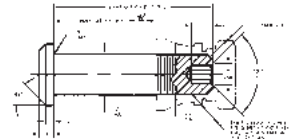


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube					
-5	5/32	.2612 .2564	.312	.1635 .1630	.1635 .1625	.1595 .1570	.041 .039	8-32	4,010	1,650
-6	3/16	.3016 .2966	.325	.1895 .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

## HL10 HI-LOK®

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

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

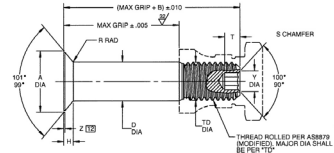


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5									<b>NOTE: Use HL10VAZ6</b>		
-6	13/64	.315 .295	.325	.2026 .2021	.2026 .2016	.1840 .1810	.025	.055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

## HL11 HI-LOK®

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

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



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					
-5									<b>NOTE: Use HL11VAZ6</b>	
-6	13/64	.3016 .2966	.325	.2026 .2021	.2026 .2016	.1840 .1810	.055 .045	10-32	6,130	2,500





## 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	7075-T6 ALUMINIUM ALLOY		
HL22	PROTRUDING SHEAR HEAD			
HL23	100° FLUSH SHEAR HEAD	431 STAINLESS STEEL		
HL30	PROTRUDING SHEAR HEAD			
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		1/64 OVERSIZE FOR HL18	
HL62	PROTRUDING SHEAR HEAD		1/64 OVERSIZE FOR HL19	
HL63	100° FLUSH SHEAR HEAD		1/64 OVERSIZE FOR HL20	
HL64	PROTRUDING TENSION HEAD		1/64 OVERSIZE FOR HL21	
HL65	100° FLUSH TENSION HEAD		1/64 OVERSIZE FOR HL10	
HL110	PROTRUDING SHEAR HEAD		1/64 OVERSIZE FOR HL11	
HL111	100° FLUSH SHEAR HEAD		1/32 OVERSIZE FOR HL18	
HL218	PROTRUDING SHEAR HEAD		1/32 OVERSIZE FOR HL19	
HL219	100° FLUSH SHEAR HEAD		1/32 OVERSIZE FOR HL20	
HL220	PROTRUDING TENSION HEAD	ALLOY STEEL	1/32 OVERSIZE FOR HL21	
HL221	100° FLUSH TENSION HEAD		LEAD IN RADIUS INTERFERENCE APPLICATION	
HL325	100° FLUSH SHEAR HEAD		6AL-4V TITANIUM	STANDARD SHANK DIAMETER 1/16 GRIP VARIATION
HL326	PROTRUDING TENSION HEAD			
HL327	100° FLUSH TENSION HEAD			
HL328	PROTRUDING SHEAR HEAD			
HLT900	100° FLUSH SHEAR SPECIAL HEAD	6AL-4V TITANIUM	STANDARD SHANK DIAMETER 1/16 GRIP VARIATION	
HLT912	PROTRUDING TENSION HEAD			

## HI-LOK® COLLARS

Part #	Material	Application	Description
HL70	2024-T6 ALUMINIUM ALLOY	SHEAR	STANDARD COLLAR FOR HL18 AND HL19
HL75	303 STAINLESS STEEL	TENSION	SELF ALIGNING COLLAR ASSEMBLY
HL77	2024-T6 ALUMINIUM ALLOY	SHEAR	FOR USE ON STANDARD SIZE ALUMINIUM ALLOY PINS
HL79	2024-T6 ALUMINIUM 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 ALUMINIUM 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 ALUMINIUM	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 ALUMINIUM	SHEAR	FOR USE ON HL325 AND HL328

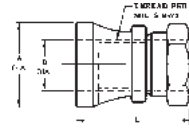
## RECOMMENDED COLLARS

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



## HL70 COLLAR

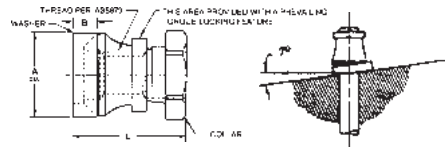
Shear Application  
Aluminium Alloy



HL70	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	1400	15-25
-6	3/16	10-32 UNJF-3B	.307 .303	.200 .192	.457 .437	1600	25-35
-8	1/4	1/4-28 UNJF-3B	.412 .408	.261 .252	.552 .532	3000	60-80
-10	5/16	5/16-24 UNJF-3B	.518 .512	.325 .314	.672 .652	5000	130-160

## HL75 COLLAR

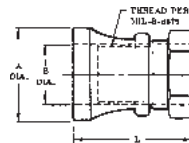
Self-Aligning Collar Assembly  
Tension Application  
303 Stainless Steel



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
HL75-5W - Washer Only, 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, HL75-6AW - Collar/Washer Combination							
-8A	1/4	1/4-28 UNJF-3B	.475 .465	.120 .110	.552 .522	5000	115-130
HL75-8W - Washer Only, HL75-8AW - Collar/Washer Combination							
-10A	5/16	5/16-24 UNJF-3B	.620 .610	.130 .120	.672 .642	8300	200-250

## HL77 COLLAR

Shear Application  
Aluminium Alloy

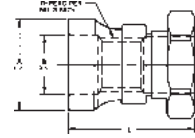


HL77	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	TENSION PRELOAD LBS. MIN.	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32 UNJC-3B	.292 .288	.173 .166	.447 .427	350	1400	10-20
-6	3/16	10-32 UNJF-3B	.307 .303	.200 .192	.457 .437	500	1600	20-30
-8	1/4	1/4-28 UNJF-3B	.412 .408	.261 .252	.552 .532	1000	3000	55-70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



## HL78 COLLAR

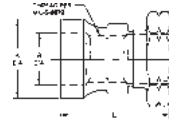
Tension Application  
A-286 High Temp. Alloy  
1/16th Grip Variation



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

## HL79 COLLAR

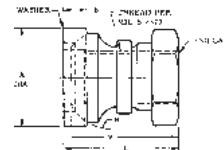
Shear Application  
Aluminium Alloy  
For Use on Standard and  
1/64 Oversized Hi-Loks



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

## HL82 COLLAR

Shear Application, Self Aligning  
Aluminium Collar, Stainless Washer  
"A" suffix for collar only, "W" for washer only  
"AW" suffix for collar washer combination



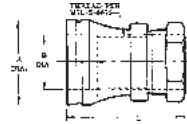
"PB" Inclusion for CAD II Plated Washer  
Example Part #: HL82-6APBW, HL82-8A, HL82-5AW, HL82-5W

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



## HL84 COLLAR

Shear Application  
Aluminium 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	10-32 UNJF-3B	.335 .325	.227 .223	.457 .437	1,600	25-35
-8	9/32	1/4-28 UNJF-3B	.430 .420	.290 .286	.552 .532	3,000	60-80
-10	11/32	5/16-24 UNJF-3B	.580 .570	.353 .347	.672 .652	5,000	130-160

## HL86 COLLAR

Tension Application  
303 Stainless Steel



HL86W# (self aligning)



HL86-#



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	10-32 UNJF-3B	.307 .303	.200 .192	.457 .437	2,750	40-50
-8	1/4	1/4-28 UNJF-3B	.412 .408	.261 .252	.552 .532	5,000	115-130
-10	5/16	5/16-24 UNJF-3B	.518 .512	.325 .314	.672 .652	8,300	200-250

## HL87 COLLAR

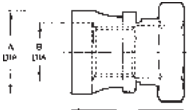
Tension Application  
303 Stainless Steel  
For Use on 1/64 Oversized Hi-Loks  
NOTE: For HL87-5 Diameter Pin, Use HL86-5



HL87W# (self aligning)



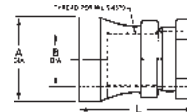
HL87-#



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

## HL90 COLLAR

Shear Application  
Aluminium Alloy

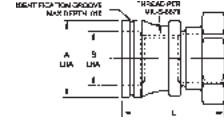


HL90	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
LP5A	5/32	8-32 UNJC-3B	.292 .288	.173 .166	.447 .427	1,400	15-25
LP6A	3/16	10-32 UNJF-3B	.307 .303	.200 .192	.457 .437	1,600	25-35

## HL93 COLLAR

Tension Application  
303 Stainless Steel

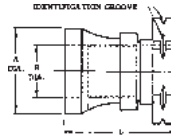
For Use on 1/32 Oversize Hi-Loks



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	1/4-28 UNJF-3B	.427 .423	.290 .286	.552 .532	5,000	115-130
-10	11/32	5/16-24 UNJF-3B	.578 .572	.353 .347	.672 .652	8,300	200-250

## HL94 COLLAR

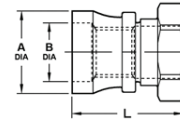
Shear Application  
303 Stainless Steel  
For Use on Standard  
and 1/64 Oversized Hi-Loks



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	10-32 UNJF-3B	.322 .318	.212 .208	.457 .437	2,750	25-35
-8	17/64	1/4-28 UNJF-3B	.422 .418	.272 .268	.552 .532	5,000	60-80
-10	21/64	5/16-24 UNJF-3B	.538 .532	.336 .330	.672 .652	8,300	130-160

## HL97 COLLAR

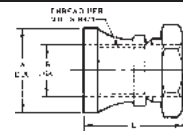
Shear Application  
A-286 High Temp. Alloy  
1/16th Grip Variation



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	10-32 UNJF-3B	.307 .303	.200 .195	.457 .437	2,500	25-35

## HLT77 COLLAR

Shear Application  
Aluminium 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	10-32 UNJF	.307 .303	.205 .201	.457 .437	1,600	25-35
-8	1/4	1/4-28 UNJF	.412 .408	.265 .261	.550 .530	3,000	60-80



## CAMLOC® 2600 Series

Protruding Head Carbon Steel

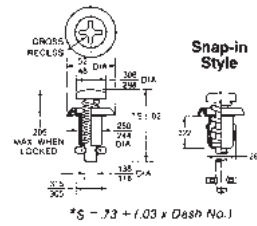
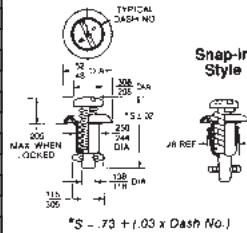
### MONADNOCK

Slotted 1126000-#

Phillips 1126004-#

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	---

\*see Stainless Steel (below) for Winged Stud



## CAMLOC® 2600 Series

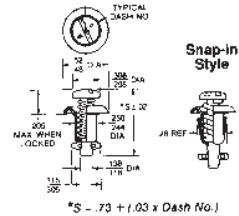
Protruding Head Stainless Steel

### MONADNOCK

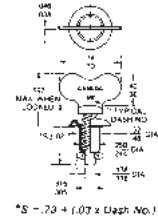
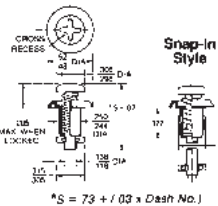
Slotted 1126007-#

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

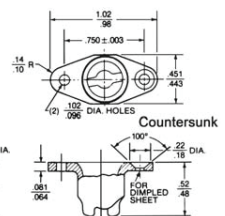
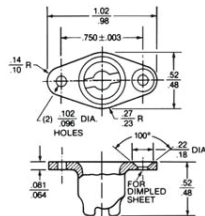


Monadnock receptacles have the same Fit, Form & Function

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

212-12, 212-12D, 212-12A  
212-12A, 212-12SD

212-12N  
Narrow Width





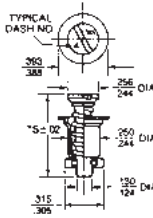
## CAMLOC® 2700 Series

Flush Head Carbon Steel

### MONADNOCK

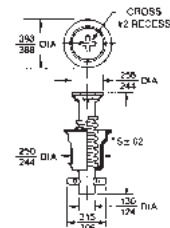
Slotted 1127000-#, Phillips 1127004-#

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	--



Snap-in Style

\*S = .58 + (.03 x Dash No.)



Snap-in Style

\*S = .58 + (.03 x Dash No.)

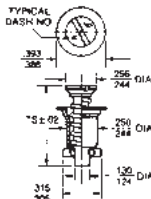
## CAMLOC® 2700 Series

Flush Head Stainless Steel

### MONADNOCK

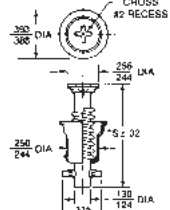
Slotted 1127003-#, Phillips 1127009-#

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	--



Snap-in Style

\*S = .58 + (.03 x Dash No.)



Snap-in Style

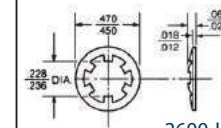
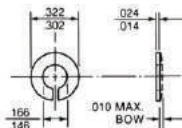
\*S = .58 + (.03 x Dash No.)

## CAMLOC® RETAINING RINGS FOR 2600/2700 SERIES

Monadnock has same Fit, Form & Function

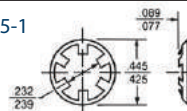
Part #	Type	Material	Monadnock #
2600-SW	Split Ring	Stainless Steel	1127722
2600-SW2	Split Ring	Cad. Plated	1127723
2600-LW	Solid Ring	Cad. Plated	1127700
2600-LW-7	Solid Ring	Stainless Steel	1127746
27S5-1	Solid Ring	Cad. Plated	1127301

2600-SW  
2600-SW2



2600-LW  
2600-LW-7

27S5-1





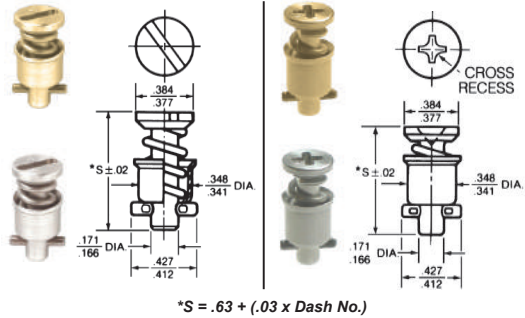
## CAMLOC® 4002 Series

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	4055-2	4002-2S	4055-2S
.111-.140	.081-.110	4002-3	4055-3	4002-3S	4055-3S
.141-.170	.111-.140	4002-4	4055-4	4002-4S	4055-4S
.171-.200	.141-.170	4002-5	4055-5	4002-5S	4055-5S
.201-.230	.171-.200	4002-6	4055-6	4002-6S	4055-6S
.231-.260	.201-.230	4002-7	4055-7	4002-7S	4055-7S
.261-.290	.231-.260	4002-8	4055-8	4002-8S	4055-8S
.291-.320	.261-.290	4002-9	4055-9	4002-9S	4055-9S
.321-.350	.291-.320	4002-10	4055-10	4002-10S	4055-10S
.351-.380	.321-.350	4002-11	4055-11	4002-11S	4055-11S
.381-.410	.351-.380	4002-12	4055-12	4002-12S	4055-12S
.411-.440	.381-.410	4002-13	4055-13	4002-13S	4055-13S
.441-.470	.411-.440	4002-14	4055-14	4002-14S	4055-14S
.471-.500	.441-.470	4002-15	4055-15	---	---
.501-.530	.471-.500	4002-16	4055-16	---	---
.531-.560	.501-.530	4002-17	4055-17	---	---

## Monadnock Equivalent

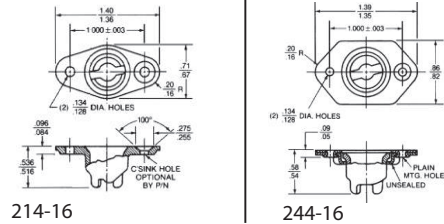
Carbon Steel      Stainless Steel  
Slotted 1142000-#      Slotted 1142002-#  
Phillips 1142005-#      Phillips 1142012-#



## CAMLOC® RECEPTACLE FOR 4002 SERIES

Silicon Bronze

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

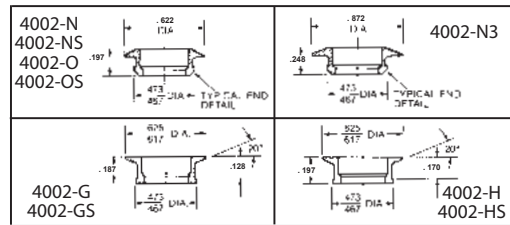


## CAMLOC® GROMMETS FOR 4002 SERIES

Heavy Duty Series

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

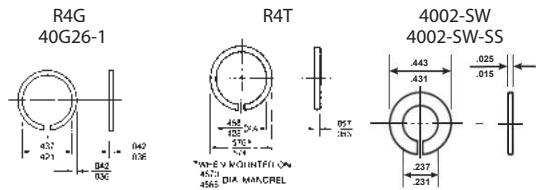
Monadnock has same Fit, Form & Function



## CAMLOC® RETAINING RINGS FOR 4002 SERIES

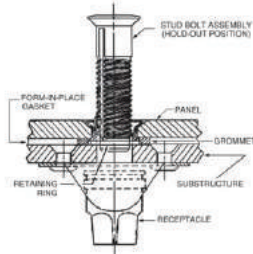
Heavy Duty Series

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





## 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
- ◆ Accommodates large variations in grip

### STUD BOLT ASSEMBLY

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

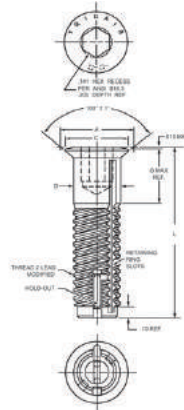
sample part number

CA21037 - 4 - 10 HS

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

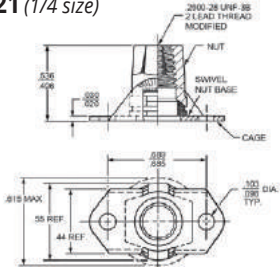
First Dash #	Thread Size	A Dia.	C Dia.	D Dia.
- 4	.2500-28 2 Lead	.440 .430	.375	.2495 .2470
- 6	.3750-24 2 Lead	.564 .554 Max. / Min.	.505	.3745 .3730 Max. / Min.

Second Dash #	G - Grip		- 4 Size Length	- 6 Size Length
	Min.	Max.		
- 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

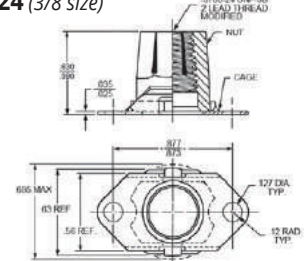


### FLAT BEAM NUT RECEPTACLES

CA21021 (1/4 size)

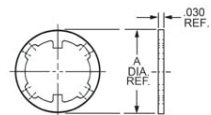


CA21024 (3/8 size)



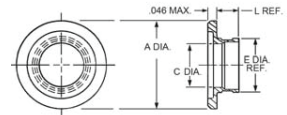
### RETAINING RING

CA21037-#R



### GROMMET

CA21038-##



Nominal Size	Part #	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

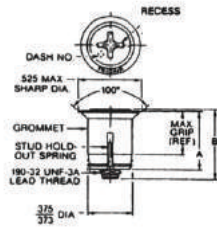
Nom. Size	Part #	L	Grip	A	C	E
1/4	CA21038-4-1	.115	.085	.505 max.	.255 max.	.310
	CA21038-4-2	.135	.105			
	CA21038-4-3	.155	.125			
3/8	CA21038-6-1	.105	.085	.630 max.	.395 max.	.465
	CA21038-6-2	.125	.105			
	CA21038-6-3	.145	.125			



## TRIDAIR® STRUCTURAL PANEL FASTENERS

### FX10-1558 SERIES

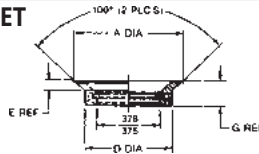
Flush Head Style



Basic Stud Assembly Part #	A Ref.	B Ref.	Grip Range		Weight lbs/ ea.
			Min	Max	
FX10-1558-1P	.35	.41	.150	.220	.010
FX10-1558-2P	.42	.48	.221	.290	.013

### HOLD-OUT GROMMET FX10-15009 SERIES

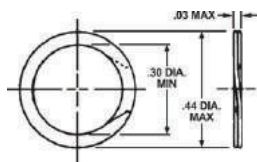
Corrosion Resistant



Part #	A	D Dia.	E	G
FX10-15009-1	.630	.500	.050	.128

### RETAINING RING FX10-1525

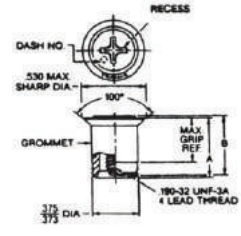
Corrosion Resistant



Part #
FX10-1525

### FX10-15010 SERIES

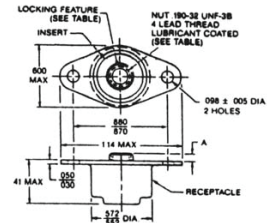
Fully Retractable Flush Head Style



Stud Assembly Part #	A Ref.	B Ref.	Grip Range		Weight lbs/ ea.
			Min	Max	
FX10-15010-1P	.42	.41	.230	.290	.013

**FX10-15030-1P CORROSION RESISTANT STEEL**

### RECEPTACLE ASSEMBLIES FX10-1502 SERIES

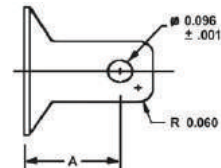


Locking Feature	Part #	A* Ref.	Lubricant Coating
High** Prevailing Torque Elliptical	FX10-1502	None	Per MIL-L-25681

## 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 #	Material
99836	Steel
SK99836S	Stainless

### RECEPTACLE



Steel Part #
99947P130

### GROMMET

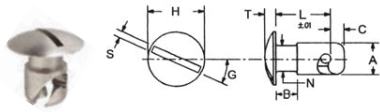


Steel Part #
295250-1



## SLOTTED HEAD

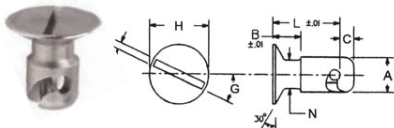
DZUS® Stud  
Alternate #  
121J-#-Z3CT



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

## FLUSH HEAD

DZUS® Stud

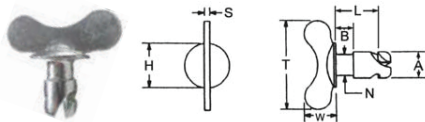


Alternate #  
126J-#-Z3CT

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

## WING HEAD

DZUS® Stud

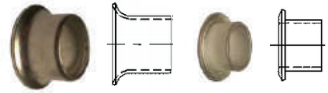


Alternate #  
121J-W#-Z3CT

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

## FULL GROMMETS

GA# Dommed  
GF# Flush



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-Aluminium	
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



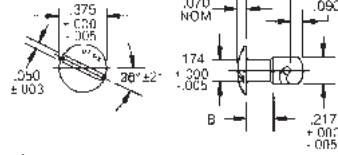
Part #	Stud	Part #	Stud
SX520SS	3	SR3SS	3
SX523SS	4	SR4SS	4
SX510SS	5	SR5SS	5



## DZUS® A3.5T Series (A35T, A3-1/2T)

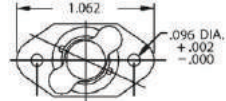
T Total Thickness	Stud Shank L	Dimensions B	Stud A3.5
.031 - .060	.290	.170	T6
.061 - .090	.320	.170	T9
.091 - .102	.350	.210	T12
.121 - .150	.380	.250	T15
.151 - .180	.410	.290	T18
.181 - .210	.440	.290	T21
.211 - .240	.470	.330	T24
.241 - .270	.500	.370	T27
.271 - .300	.530	.410	T30
.301 - .330	.560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

### A3.5T



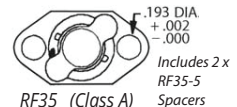
Alternate Part #  
2351-20-##-Z3CT (Zinc Trivalent Chromate)  
2351-20-##-C3C (Cadmium Electroplated)

### Rigid Receptacle



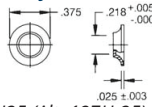
R35 (Class B)  
Alternate # 2350-18-Z3CT

### Floating Receptacle



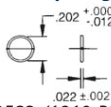
Includes 2 x RF35-5 Spacers  
Alternate # 2350-18F-ZCT

### GH Half Grommet



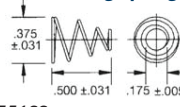
GH35 (Alt: 127H-35)

### Snap Ring



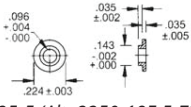
SR355S (1219-R35-SS)

### Retaining Spring



SX551SS

### Spacer

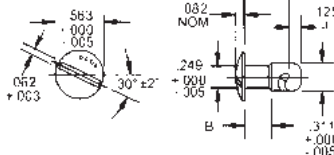


RF35-5 (Alt: 2350-18F-5-Z3CT)

## DZUS® A5T Series

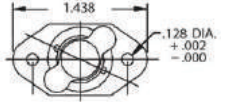
T Total Thickness	Stud Shank L	Dimensions B	Stud A5
.021 - .050	.350	.170	T5
.051 - .080	.380	.210	T8
.081 - .110	.410	.250	T11
.111 - .140	.440	.250	T14
.141 - .170	.470	.290	T17
.171 - .200	.500	.330	T20
.201 - .230	.530	.370	T23
.231 - .260	.560	.370	T26
.261 - .290	.590	.410	T29
.291 - .320	.620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

### A5T



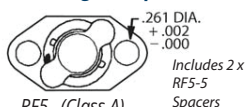
Alternate Part #  
2501-20-##-Z3CT (Zinc Trivalent Chromate)  
2501-20-##-C3C (Cadmium Electroplated)

### Rigid Receptacle



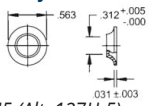
R5 (Class B)  
Alternate # 2500-18-Z3CT

### Floating Receptacle



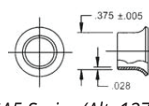
Includes 2 x RF5-5 Spacers  
Alternate # 2500-18F-Z3CT

### GH Half Grommet



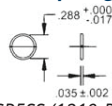
GH5 (Alt: 127H-5)

### GA Full Grommet



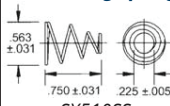
GA5 Series (Alt: 1271-#)

### Snap Ring



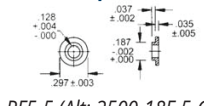
SR55S (1219-R5-SS)

### Retaining Spring



SX510SS

### Spacer



RF5-5 (Alt: 2500-18F-5-C3C)

## 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



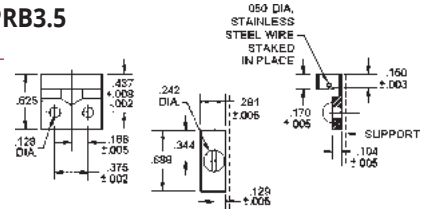
TP835E

## CAPTIVE 1/4-TURN FASTENERS

- 1/4-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

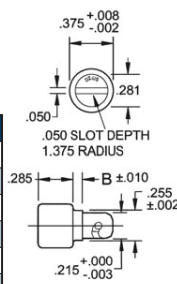


## PFSC 35 STUD ASSEMBLY

CT - Zinc trivalent *clear*  
BT - Zinc trivalent *black*



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
PFSC35-41AZBT	3506-SC41A-Z3BT	.090 - .099	.110
PFSC35-44A	3506-SC44A-Z3CT	.120 - .129	.140



**TP35AHT**  
Hand-squeeze tool for PFSC35 pre-assembled fasteners.



**AAE-TP35AHT**  
Confined space tool. Hand-squeeze Contact AAE for details.



## PR35 RIGHT-ANGLE STRIP

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

### Typical Studs

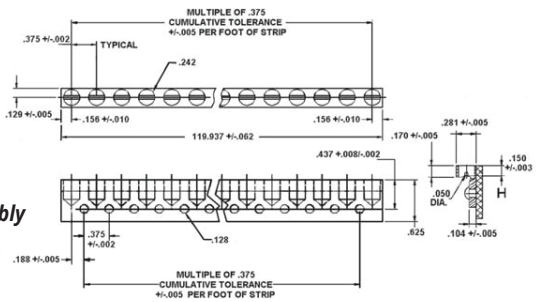
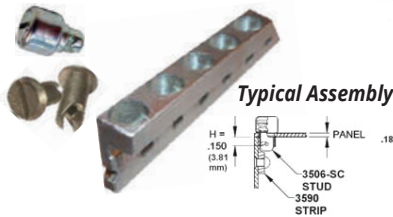
PFSC35-#  
Alt. # 3506-SC#A-C3C  
PF35-#  
Alt. # 3506-38-C3C

### 3 Foot Length

PR35SX3  
Alt. # 3590-S3

### 5 Foot Length

PR35SX5  
Alt. # 3590-S5



## PR35-1 FLAT STRIP

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

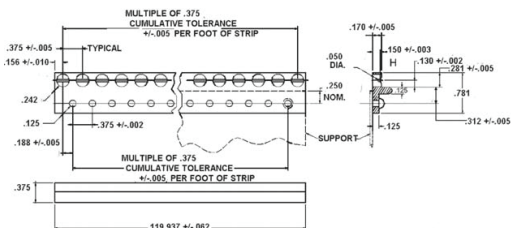
### Flat Strip

### 3 Foot Length

PR35-1S3  
Alt. # 3595-S3

### 5 Foot Length

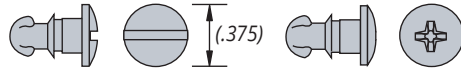
PR35-1S5  
Alt. # 3595-S5





## SOUTHCO®

No. 82 Series  
1/4 Turn Fasteners  
Oval Head



DACROTISED		STAINLESS	
Slotted	Phillips	Slotted	Phillips
Part #	Part #	Part #	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

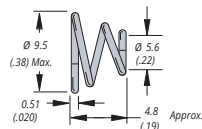


**82-46-101-39**  
Thermoplastic Cupped Wear Washer



### EJECTOR SPRING

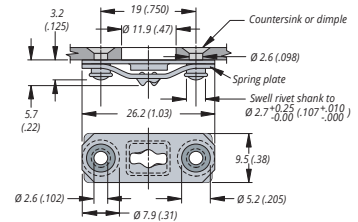
**43-13-1-24**



### LEAF SPRING RECEPTACLES

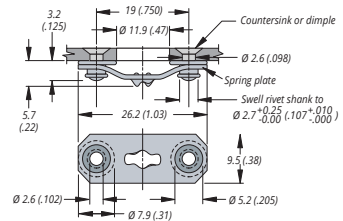
**For riveting**  
- with base

**82-35-302-15**

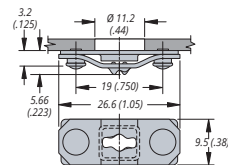


**For riveting**  
- without base

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



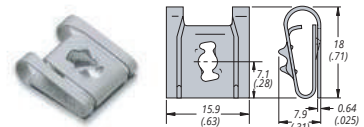
**For welding**  
**82-35-303-15**



Rivet must not interfere with spring.

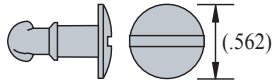
### CLIP-ON RECEPTACLE

**82-47-113-15**



## SOUTHCO®

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



DACROTISED	STAINLESS
Part #	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

## SOUTHCO® 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

## 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

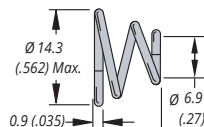


**85-46-103-39**  
Flat Wear Washer



## EJECTOR SPRING

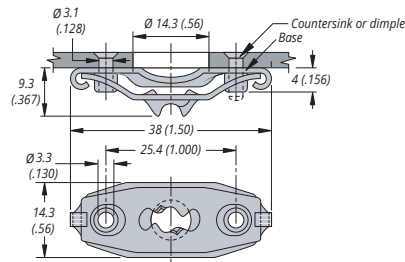
**14-18-150-24/5**  
Ejector Spring



## LEAF SPRING RECEPTACLES

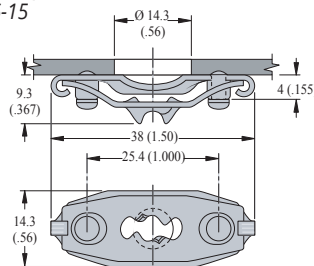
**For riveting**

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



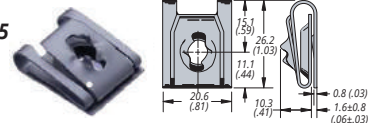
**For welding**

85-35-296-15



## CLIP-ON RECEPTACLE

**85-47-101-15**





## AN960 / NAS1149 CROSS REFERENCE CHART

CARBON STEEL		CORROSION RESISTANT STEEL		ANODISED ALUMINIUM	
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

(MOST AN960 SERIES WASHERS SOLD BY AAE ARE DUAL CERTIFIED TO BOTH AN960 AND NAS1149 SERIES)

ALUMINIUM ALLOY		ANODISED ALUMINIUM 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	---	---



## AN960

Airframe Washer



To Fit Dia.	CARBON STEEL		CORROSION RESISTANT	
	AN960# Thick	AN960-#L Thin	AN960C Thick	AN960C#L Thin
# 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 AAE ARE DUAL CERTIFIED TO BOTH AN960 AND NAS1149 SERIES)

## AN960

Airframe Washer,  
Aluminium



To Fit Dia	ANODISED FINISH		NATURAL FINISH	
	AN960JD Thick	AN960JD#L Thin	AN960D# Thick	AN960D#L Thin
# 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 Coated  
Corrosion Resistant Steel



To Fit Dia	AN960XC Thick	AN960XC#L Thin
# 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,  
Anodised Aluminium  
Anodised per MIL-A-8625



To Fit Dia	AN960KD Thick	AN960KD#L Thin
# 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



## 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

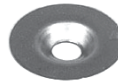
High Strength Washer



To Fit Dia	PLAIN	COUNTERSUNK
	MS20002	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° Dimpled Washer



Diameter	CARBON STEEL		CORROSION RESISTANT		ALUMINIUM	
	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

## TINNERMAN® WASHER

100° Countersunk. RoHS Compliant.  
Dash # -193 is New Revision / Supersedes Dash -24A



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

## CA3105

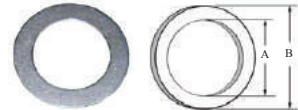
Fairing Washer Assembly  
Non-structural



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



## 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	----

## NAS390

## NAS391

Interior Finishing Washer



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

## INTERIOR FINISHING WASHER

601-# & 603-#



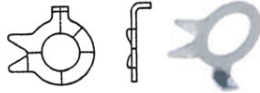
To Fit Dia.	Countersunk	Flush
	601	603
#4	-4	-4
#6	-6	-6
#8	-8	-8
#10	-10	-10

**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

**NAS549**  
Non-Metallic Washer  
Insulating, Electrical  
Absence of "F" indicates Phenolic Paper  
"F" after basic # indicates Fibre 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 Fibre  
Bone White



To Fit Dia.	Thickness
.190	.031

**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

**140-001-#**  
Aluminium Washer



Part #	I.D.	O.D.	Thickness	Rivet Dia.
140-001-1	.140	.438	.032	1/8"
140-001-3	.167	.500	.040	5/32"
140-001-5	.203	.625	.040	3/16"
140-001-9	.140	.3125	.032	1/8"
140-001-11	.110	.3125	.032	3/32"

## NAS620

Flat Washer  
Thickness .032 / .016 (L)



To Fit Dia.	CARBON STEEL		CORROSION RESISTANT		ALUMINIUM 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

Aluminium 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 (L)



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

Aluminium Alloy Washer

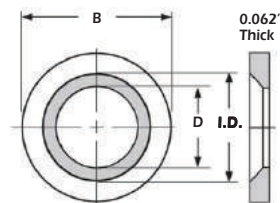
I.D.	NAS1197	THICKNESS	NAS1197	THICKNESS
#6	-6	.032	-6L	.016
#8	-8	.032	-8L	.016
#10	-10	.063	-10L	.016
1/4	-416	.063	-416L	.016
5/16	-516	.063	-516L	.016
3/8	-616	.063	-616L	.016



## MS21206

Plain or 45° Countersunk Design  
Alloy Steel, Cadmium Plate Type II, Class 2

Size	Countersunk MS21206	Plain MS21206	B Max	D Max	I.D. Max
#10	C3	-3	.372	.195	.290
1/4	C4	-4	.470	.255	.350
5/16	C5	-5	.573	.318	.412
3/8	C6	-6	.679	.380	.507
1/2	C8	-8	.898	.505	.632



Countersunk Type

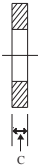
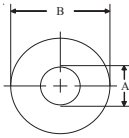




## MS15795

Flat Washer  
Corrosion Resistant Steel

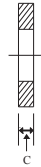
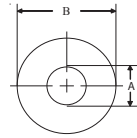
MS15795-	A	B	C
801	.078	.188	.020
802	.094	.250	.020
803	.125	.250	.022
804	.125	.312	.032
805	.156	.312	.035
806	.156	.375	.049
845	.172	.281	.031
856	.172	.312	.031
807	.188	.375	.049
841	.188	.438	.049
846	.203	.375	.020
847	.203	.562	.032
849	.203	.625	.040
808	.219	.438	.049
842	.219	.500	.049
809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



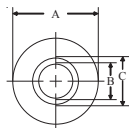
## MS21299

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



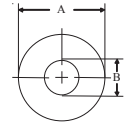
Countersunk



0.057 - 0.069



Plain



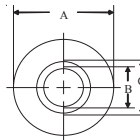
0.057 - 0.069

## NAS1587

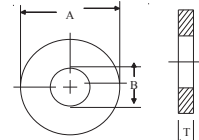
High Temp. Washer (1200°F)  
Plain & Countersunk



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



NAS1587C  
Countersunk



NAS1587  
Plain  
Light washer 1/2 T  
(see above)

Dash number designates thread size  
Add "C" after dash number for countersunk  
Add "L" after dash number for plain light washer.  
Thickness = 1/2 T (Not applicable to countersunk washer).

## PLUG BUTTON OLD NAS451-#

CRS1008 / 1010 STEEL

P/N suffix "-K2915" for Zinc Plate



Part #	Reference Only NAS451-#	Hole	Panel Thickness	Head Diameter	Head Thickness	# of Prongs
SS48192	<b>NAS451-7</b>	0.375	.037-.078	0.500	0.062	6
SS51003	<b>NAS451-8</b>	0.391	.078-.093	0.500	0.062	
SS51043	<b>NAS451-10</b>	0.438	.037-.047	0.656	0.078	8
SS51051	<b>NAS451-11</b>	0.469	.083-.125	0.625	0.062	
SS48152	<b>NAS451-43</b>	0.500	.037-.062	0.656	0.078	
SS48172	<b>NAS451-16</b>	0.625	.062-.078	0.797	0.078	12
SS50727	<b>NAS451-46</b>	0.688	.037-.062	0.875	0.078	
SS51026	<b>NAS451-17</b>	0.750	.037-.093	0.938	0.094	
SS48165	<b>NAS451-48</b>	0.750	.078-.109	0.938	0.094	
SS51045	<b>NAS451-18</b>	0.812	.048-.078	1.063	0.062	
SS50685	<b>NAS451-49</b>	0.875	.094-.171	1.063	0.078	
SS48155	<b>NAS451-56</b>	0.875	.031-.093	1.063	0.062	
SS48143	<b>NAS451-51</b>	1.000	.062-.093	1.156	0.078	
SS50726	<b>NAS451-30</b>	1.250	.062-.093	1.438	0.094	
SS51058	<b>NAS451-31</b>	1.375	.037-.078	1.562	0.094	
SS48132	<b>NAS451-54</b>	1.375	.109-.141	1.562	0.094	
SS50834	<b>NAS451-55</b>	1.500	.038-.141	1.641	0.094	
SS50841	<b>NAS451-33</b>	1.625	.062-.078	1.797	0.125	
SS50890	<b>NAS451-58</b>	1.750	.037-.094	1.938	0.125	

## MS27980 SNAP FASTENERS

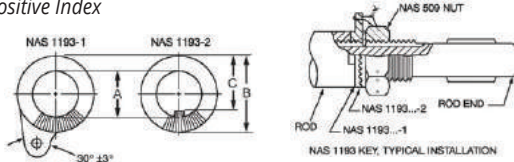
Style 2, Available in Bright Brass, Gov't Black, & Nickel Plate

<p><b>MS27980-1</b> Button</p>	<p><b>MS27980-7</b> Stud</p>	<p><b>Stud - Machine Screw Base</b></p>																					
<p><b>MS27980-6</b> Socket</p>	<p><b>Eyelets</b> Size 2 &amp; 3 Not avail. in brass</p>	<table border="1"> <thead> <tr> <th>Part #</th> <th>A Dim.</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>MS27980-12</td> <td>5/16"</td> <td>1</td> </tr> <tr> <td>MS27980-13</td> <td>3/8"</td> <td>2</td> </tr> <tr> <td>MS27980-14</td> <td>5/8"</td> <td>3</td> </tr> </tbody> </table>	Part #	A Dim.	Size	MS27980-12	5/16"	1	MS27980-13	3/8"	2	MS27980-14	5/8"	3									
Part #	A Dim.	Size																					
MS27980-12	5/16"	1																					
MS27980-13	3/8"	2																					
MS27980-14	5/8"	3																					
<p><b>** When ordering Snap Fasteners **</b> At the end of the part # place a: B for Gov't Black finish N for Nickel Plate finish Leave blank for Brass finish</p> <table border="1"> <thead> <tr> <th>Part #</th> <th>Size</th> <th>A Dim.</th> </tr> </thead> <tbody> <tr> <td>MS27980-8</td> <td>1</td> <td>9/32"</td> </tr> <tr> <td>MS27980-9</td> <td>2</td> <td>11/32"</td> </tr> <tr> <td>MS27980-10</td> <td>3</td> <td>13/32"</td> </tr> </tbody> </table>		Part #	Size	A Dim.	MS27980-8	1	9/32"	MS27980-9	2	11/32"	MS27980-10	3	13/32"	<p><b>Stud-Eyelet Combo</b></p> <table border="1"> <thead> <tr> <th>Part #</th> <th>Length</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>MS27980-26</td> <td>11/32"</td> <td>1</td> </tr> <tr> <td>MS27980-27</td> <td>25/64"</td> <td>2</td> </tr> </tbody> </table>	Part #	Length	Size	MS27980-26	11/32"	1	MS27980-27	25/64"	2
Part #	Size	A Dim.																					
MS27980-8	1	9/32"																					
MS27980-9	2	11/32"																					
MS27980-10	3	13/32"																					
Part #	Length	Size																					
MS27980-26	11/32"	1																					
MS27980-27	25/64"	2																					



## NAS1193

Locking Device  
Positive Index

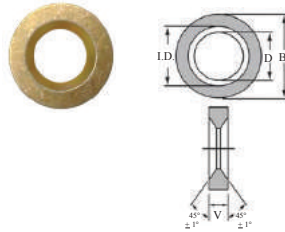


To Fit Dia.	A Dia.	B Dia.	C	NAS1193
.2500-28	.260	.44	.211	K4C
.3125-24	.323	.50	.270	K5C
.3750-24	.385	.56	.321	K6C
.4375-20	.448	.63	.380	K7C

## MS14155

Washer, Recessed  
Countersunk Both Sides

Used with Wheel  
Bolts and Nuts  
Up To & Including 180 KSI



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

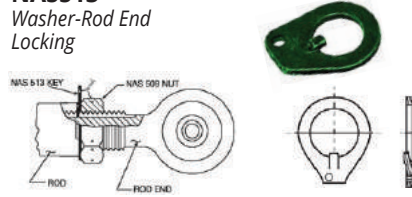
Spring Pin,  
Tubular, Slotted



Length	Corrosion Resistant Steel				Carbon Steel	
	Diameter & Dash #				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  
Circlips



Refer to AAE eStore datasheet for size information

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



## COTTER PIN MS24665 (AN380, AN381)



Diameter	Length	CARBON STEEL		CORROSION 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
5/64	2-1/2"	144	2-10	163	2-40
	3"	145	2-12	164	2-48
	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
3/32	2"	219	---	238	25-32
	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
1/8	3"	295	3-12	312	3-48
	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
5/32	3"	363	4-12	380	4-48
	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
5/32	3-1/2"	431	5-14	449	5-56
	4"	432	5-16	450	5-64



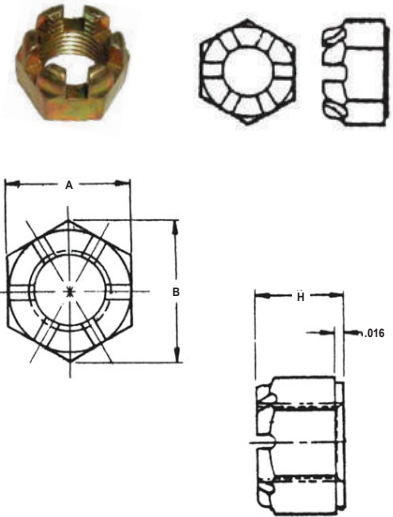
## AN310

Castellated Nut

AN310	Thread Size	Uts. Min Lbs. Steel	A +.002 -.010	B	H
-3	10-32	2,210	.375	7/16	1/4
-4	1/4-28	4,080	.438	1/2	9/32
-5	5/16-24	6,500	.500	37/64	21/64
-6	3/8-24	10,100	.563	21/32	13/32
-7	7/16-20	13,600	.625	23/32	29/64
-8	1/2-20	18,500	.750	7/8	9/16
-9	9/16-18	23,600	.875	1-1/64	39/64
-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



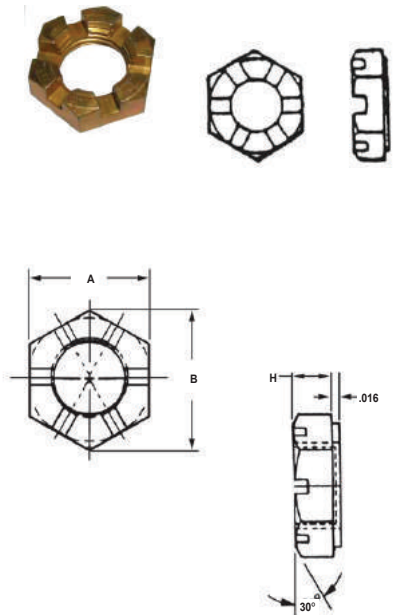
## AN320

Shear Castellated Nut

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

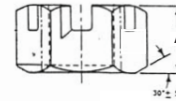
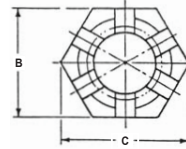
Thread Size	Carbon Steel AN320	Corrosion Resistant AN320
6-40	-1	C1
8-32	-2	C2
10-32	-3	C3
1/4-28	-4	C4
5/16-24	-5	C5
3/8-24	-6	C6
7/16-20	-7	C7
1/2-20	-8	C8
9/16-18	-9	C9
5/8-18	-10	C10



## MS17825

Self Locking Castellated Nut, Tension Application (125 KSI)  
Nonmetallic (Nylon) Insert, 250° F

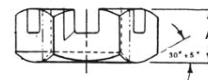
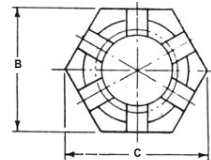
Dash No.	Thread Size MIL-S-8879	A		B		C	Ultimate Tensile Strength Lbs. Min	Test Wrenching Torque (Inch Lbs.) Min
		Min	Max	Max	Min			
-3	.1900-32	.265	.235	.376	.367	.410	1,950	35
-4	.2500-28	.296	.266	.439	.430	.482	3,500	80
-5	.3125-24	.343	.313	.502	.492	.552	5,500	225
-6	.3750-24	.421	.391	.564	.553	.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, Shear Application  
Low Height, Nonmetallic (Nylon) Insert, 250° F

Dash No.	Thread Size MIL-S-8879	A		B		C	Ultimate Tensile Strength Lbs. Min	Test Wrenching Torque (Inch Lbs.) Min
		Max	Min	Max	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



## MS14144

Self Locking Castellated Nut, Tension Application (160 KSI)  
 Black Moly Coat or CAD II Plated, Lightweight, 450° F

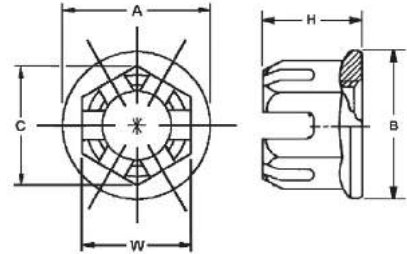


Black Moly (Dry Film Lube)



CAD II Plated

Dash No.		Thread Size MIL-S-8879	A		B	C		H		W	
Non Dry Lube	Dry Lube		Max	Min	Min	Max	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		



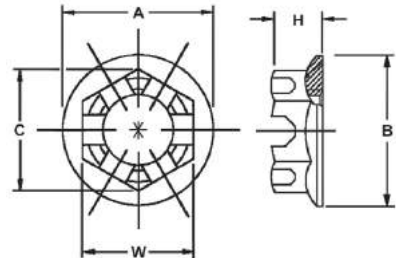
## MS14145

Self-Locking Castellated Nut, Shear Application  
 Black Moly Coat or CAD II Plated, Thin, Lightweight, 450° F



Black Moly (Dry Film Lube)

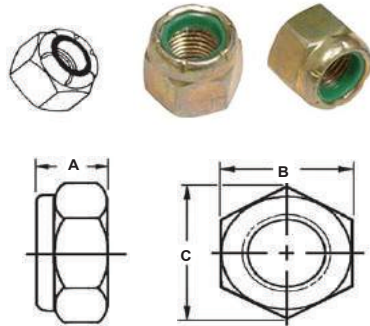
Dash No.		Thread Size MIL-S-8879	A		B	C		H		W	
Non Dry Lube	Dry Lube		Max	Min	Min	Max	Min	Max	Min	Max	Min
-3	L3	.1900-32	.325	.291	.277	.203	.173	.252	.243		
-4	L4	.2500-28	.420	.386	.348	.203	.173	.315	.305		
-5	L5	.3125-24	.520	.482	.419	.203	.173	.378	.367		
-6	L6	.3750-24	.579	.539	.480	.234	.204	.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		



## MS21044

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

MS21044			Thread Size 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

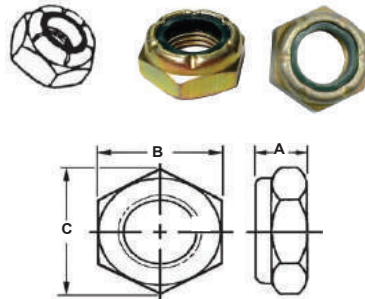


Thread Size	Carbon Steel		Corrosion Resistant		Aluminium
	MS21044	MS20365-	MS21044	MS21044	MS21044
4-40	N04	440A		C04	D04
6-32	N06	632A		C06	D06
8-32	N08	832A		C08	D08
10-32	N3	1032A		C3	D3
1/4-28	N4	428A		C4	D4
5/16-24	N5	524A		C5	D5
3/8-24	N6	624A		C6	D6
7/16-20	N7	720A		C7	D7
1/2-20	N8	820A		C8	D8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

## MS21083

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

MS21083			Thread Size 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

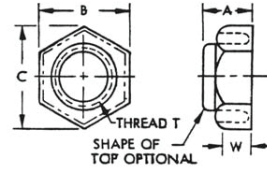


Thread Size	Carbon Steel		Corrosion Resistant		Aluminium
	MS21083	MS20364-	MS21083	MS21083	MS21083
4-40	N04	440A		C04	D04
6-32	N06	632A		C06	D06
8-32	N08	832A		C08	D08
10-32	N3	1032A		C3	D3
1/4-28	N4	428A		C4	D4
5/16-24	N5	524A		C5	D5
3/8-24	N6	624A		C6	D6
7/16-20	N7	720A		C7	D7
1/2-20	N8	820A		C8	D8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



## 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



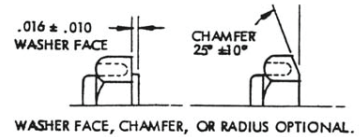
Dash No.			Thread Size	A Max	B		C
450° F	800° F				Max	Min	
STEEL	CRES	CRES					
A04	C04M	C04	.1120-40	.125	.252	.240	.289
A06	C06M	C06	.1380-32	.141	.314	.302	.361
A08	C08M	C08	.1640-32	.188	.346	.334	.390
A3	C3M	C3	.1900-32	.188	.377	.365	.430
A4	C4M	C4	.2500-28	.219	.439	.430	.506
A5	C5M	C5	.3125-24	.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

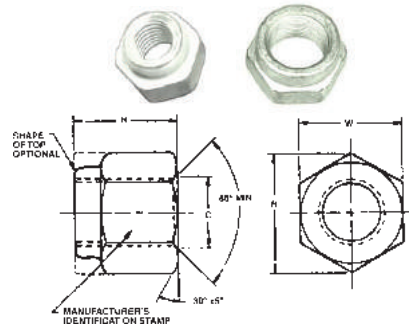
Thread Size	NAS679C
6-32	C06M
8-32	C08M C08MW
10-32	C3MW C3W
1/4-28	C4MW C4W
5/16-24	C5



## MS20500

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

Dash No.	Thread MIL-S-8879	C	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	



## EXHAUST MANIFOLD NUTS



Part #	Thread	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

## Pal Nut

Suffix 'S0G' and -214 are interchangeable



Thread Size	Old # MS27151	New Commercial #
10 - 32	-7	RM103200S0G
1/4 - 28	-13	RF142800S0G
5/16 - 24	-16	RF516240S0G
3/8 - 24	-19	RF382400S0G
7/16 - 20	-21	RL716200S0G

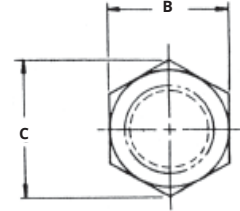
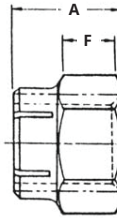
## MS21045 (AN363)

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

Dash Number			Thread Size 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

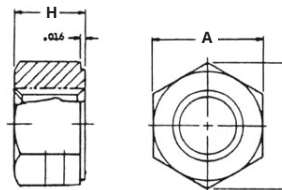


Thread Size	MS21046
4-40	C04
6-32	C06
8-32	C08
10-32	C3
1/4-28	C4
5/16-24	C5
3/8-24	C6
7/16-20	C7
1/2-20	C8

## AN121501, AN121502, AN121503

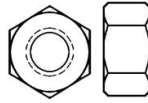
Plain Nut, Steel AMS 6322  
(Old AN360 Engine Nut)

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

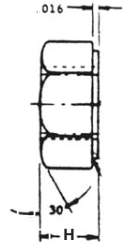
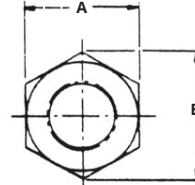


## AN315

Hexagon Plain Nut  
 Add suffix R for Right Hand Thread  
 Add suffix L for Left Hand Thread



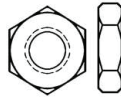
AN315	Thread Size	Tensile Strength Steel	A +.002 -.010	B Approx	H
-3	10-32	2,210	.375	7/16	9/64
-4	1/4-28	4,080	.438	1/2	3/16
-5	5/16-24	6,500	.500	37/64	15/64
-6	3/8-24	10,100	.563	21/32	9/32
-7	7/16-20	13,600	.625	23/32	21/64
-8	1/2-20	18,500	.750	7/8	3/8
-9	9/16-18	23,600	.875	1-1/64	27/64
-10	5/8-18	30,100	1.000	1-5/32	15/32



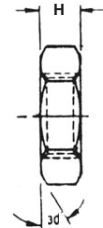
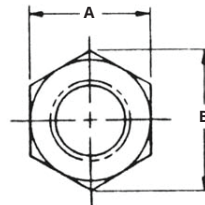
Thread Size	AN315-	AN315-	AN315
10-32	3R	3L	C3R
1/4-28	4R	4L	C4R
5/16-24	5R	5L	C5R
3/8-24	6R	6L	C6R
7/16-20	7R	7L	---
1/2-20	8R	8L	---
9/16-18	9R	9L	---
5/8-18	10R	10L	---

## AN316

Hexagon Jam Nut, Low Height  
 Add suffix R for Right Hand Thread  
 Add suffix L for Left Hand Thread



AN316	Thread Size	Tensile Strength	A +.002 -.010	B Approx.	H
-4	1/4-28	2,040	.438	1/2	1/8
-5	5/16-24	3,250	.500	37/64	5/32
-6	3/8-24	5,050	.563	21/32	3/16
-7	7/16-20	6,800	.625	23/32	7/32
-8	1/2-20	9,250	.750	7/8	1/4
-9	9/16-18	11,800	.875	1-1/64	9/32
-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

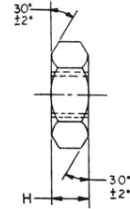
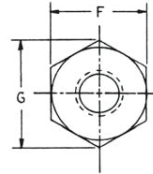


## MS35649

Plain Hexagon Nut  
Coarse Thread



Dash Number			Thread Size	F		G		H	
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



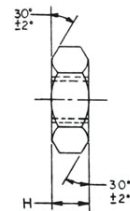
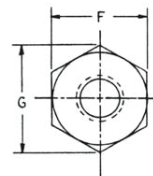
Thread Size	Steel	Corrosion Resistant	Brass, Black Oxide
	MS35649-	MS35649-	MS35649-
2-56	222	224	225B
4-40	242	244	245B
6-32	262	264	265B
8-32	282	284	286B
10-24	202	204	205B
1/4-20	2252	2254	2255B
5/16-18	2312	2314	2315B

## MS35650

Plain Hex Nut  
Fine Thread



Dash Number			Thread Size	F		G		H	
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

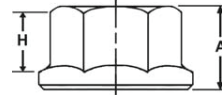
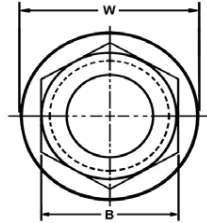


## NAS1291

Self Locking Nut  
Low Height, Lightweight

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

Thread Size	Dash Number			A	B	H	W
	450°F						
	STEEL	A286 CRES	A286 CRES				
.1380-32	---	C06M	---	.141	-.190	.055	.244
.1640-32	---	C08M	---	.188	-.221	.060	.290
.1900-32	---	C3M	---	.188	-.252	.065	.330
.2500-28	---	C4M	---	.219	-.316	.090	.420
.3125-24	---	C5M	---	.266	-.378	.120	.520
.3750-24	---	C6M	---	.282	-.440	.125	.620
.4375-20	-7	C7M	C7	.328	-.504	.160	.708
.5000-20	-8	C8M	C8	.410	-.566	.225	.814
.5625-18	-9	C9M	C9	.480	-.692	.320	.912
.6250-18	-10	C10M	C10	.550	-.755	.365	1.014

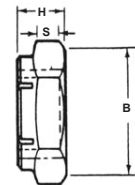
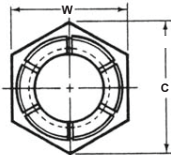


Thread Size	Corrosion Resistant 450°F	Steel	Corrosion Resistant 800°F
	NAS1291	NAS1291	NAS1291
8-32	C08M	-	-
10-32	C3M	-	-
1/4-28	C4M	-	-
5/16-24	C5M	-	-
3/8-24	C6M	-	-
7/16-20	C7M	-7	C7
1/2-20	C8M	-8	C8
5/8-18	C10M	-10	C10

## 27FT

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

Dash No.	Thread Size	B Min Dia.	C Min	H Max	S Min	W	
						Max	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

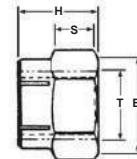
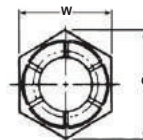


SPS Part #	For Ref. Only MS20364-
27FT632	632C
27FT832	832C
27FT1032	1032C
27FT428	428C
27FT524	524C
27FT624	624C

## 22FH

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

DASH NO.	T Thread	B Min Dia.	C Min.	H Max	S Min	W	
						Max	Min
524	.312-24	.492	.561	.353	.150	.502	.492
624	.375-24	.553	.631	.482	.210	.564	.553



SPS Part #
22FH524
22FH624

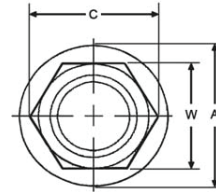
## MS21042

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

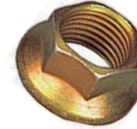
Dash No.	Thread Size	A Max Dia.	C Min	H		W ACROSS FLATS	
				Max	Min	Max	Min
-02	.0860-56	.167	.138	.100	.080	.127	.122
-04	.1120-40	.206	.171	.125	.103	.158	.150
-06	.1380-32	.244	.207	.141	.115	.190	.181
-08	.1640-32	.290	.244	.188	.125	.221	.213
-3	.1900-32	.330	.277	.188	.154	.252	.243
-4	.2500-28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

Thread Size	with Dry Film Lube MS21042	without Dry Film Lube 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

with Dry Film Lube



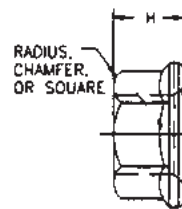
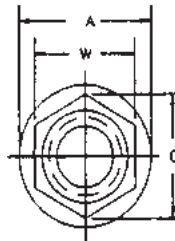
without Dry Film Lube



## MS21043

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

Dash No.	Thread Size	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

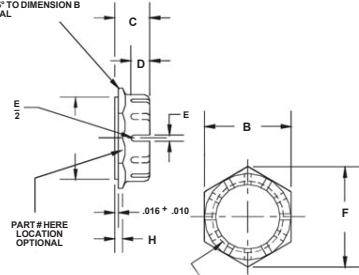


## MS21025

Castellated Hexagon Nut  
Alloy Steel 450° F



CHAMFER ON BOTTOM  
FACE 15° TO DIMENSION B  
OPTIONAL



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

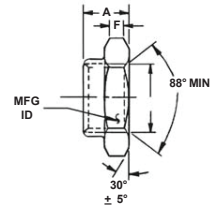
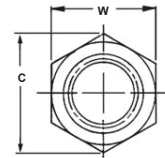
THREAD T COUNTERSINK  
OPPOSITE END ONLY 15° TO  
OUTSIDE DIA. OF THREAD

## MS21245

Self Locking Nut  
Hexagon, Thin  
450° F, 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

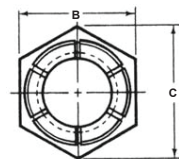


## NAS1022

Self Locking Nut  
Hexagon Low Height  
Low Strength Steel 450° F

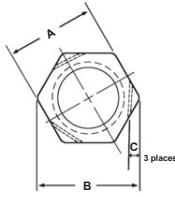


Thread Size	NAS1022	A	B		C	D
			Min	Max		
.4375-20	A7	.328	.679	.690	.790	.458
.5000-20	A8	.328	.741	.752	.870	.531
.5625-18	A9	.375	.865	.877	1.010	.594
.6250-18	A10	.407	.928	.940	1.080	.656
.7500-16	A12	.422	1.052	1.064	1.230	.787
.8750-14	A14	.485	1.239	1.252	1.440	.913
1.000-12	A16	.578	1.427	1.440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

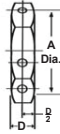


## NAS509

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

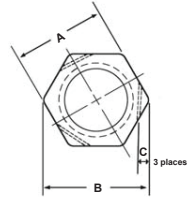


NAS509	Thread	A	C	B	D
-3	.1900-32	.375	.053	.411	.156
-4	.2500-28	.438	.056	.484	.188
-5	.3125-24	.500	.058	.555	.219
-6	.3750-24	.563	.060	.628	.250
-7	.4375-20	.625	.063	.700	.281
-8	.5000-20	.750	.093	.844	.313



## NAS1423

Drilled Jam Nut  
 "LH" Suffix Indicates  
 Left Hand Thread

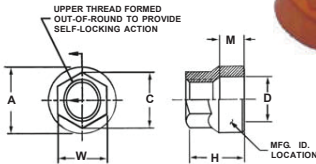


NAS1423	Thread	A	B	C	D
-3	.1900-32	.375	.411	.053	.125
-4	.2500-28	.438	.484	.056	.125
-5	.3125-24	.500	.555	.058	.125
-6	.3750-24	.563	.628	.060	.125
-8	.5000-20	.750	.844	.093	.156
-10	.6250-18	1.000	1.128	.093	.203
-12	.7500-16	1.125	1.271	.125	.250



## KFN587

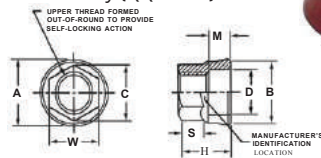
K-Fast Nut, 6 Point, Self-Locking  
 7075 Aluminium Alloy {QQ-A-225/9}



KFN587	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 Aluminium Alloy {QQ-A-225/9} or  
 7175 Aluminium Alloy {QQ-A-430}



KFN600	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, F22NKT

Hex Nut with Nylon Cap  
 Cadmium II plated



NKM

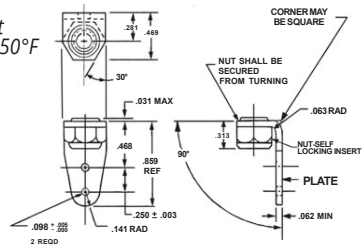


NKTM

Part #	Thread Size	Approx. Height
F22NKM-62	6-32	.297
F22NKM-82	8-32	.353
F22NKM-02	10-32	.363
F22NKT-62	6-32	.249
F22NKT-82	8-32	.308
F22NKT-02	10-32	.308

## AN256

Right Angle Nut  
 Self-Locking, 250°F

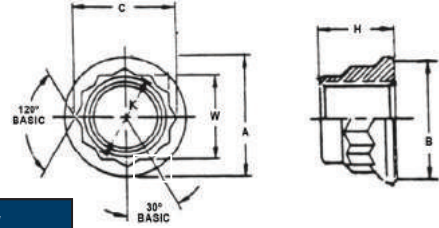


Thread Size	Part #	
	Aluminium	Steel
6-32	AN256-6	AN256F6
8-32	AN256-8	AN256F8
10-32	AN256-10	AN256F10



## NAS1804

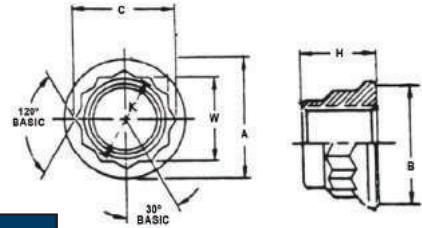
Self-Locking Nut, Extended Washer  
 Double Hexagon, Full Height  
 Alloy Steel - 180 KSI, 450°F  
 Suffix 'N' for No Black Moly Lube



Dash No.	Thread Size	A Dia.	B Dia. Min	C Min	H Max	W	
						Max	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, Full Height  
 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 Size	A Dia.	B Dia. Min	C	H Max	W	
						Max	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

## NAS9926

Self-Locking Nut, Double Hexagon (12 Point)  
 Low Height, 160 KSI, 450  
 Cadmium Plated, A286 CRES



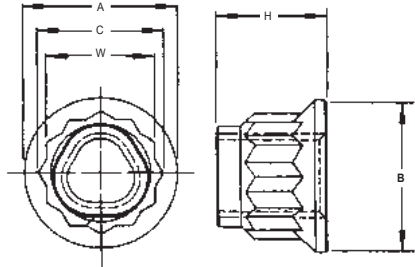
Dash No.	Thread Size
-3L	.1900-32
-4L	.2500-28
-5L	.3125-24
-6L	.3750-24

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

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



Dash No.	Thread Size	A Max	B Min	C Min	H Max	W		Axial Strength Lbs. Min
						Max	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

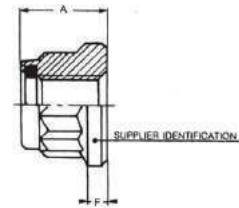
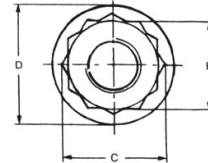


## EB - DOUBLE HEX NUT

High Tensile 180 KSI (250° F)

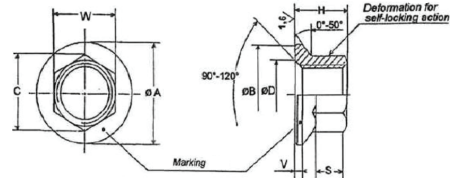


ESNA Part #	BRISTOL Part #	Thread Size	A Max	B Min	C Ref.	D +.000 -.010	F Ref.	Ultimate Tensile Strength Lbs. Min
EB-048	DHN35-4	.2500-28	.334	.376 - .367	.420	.531	.090	6,980
EB-054	DHN35-5	.3125-24	.396	.439 - .430	.491	.593	.090	11,100
EB-064	DHN35-6	.3750-24	.453	.502 - .492	.562	.687	.099	17,100
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



## PH135M - METRIC NUTS / K-NUTS

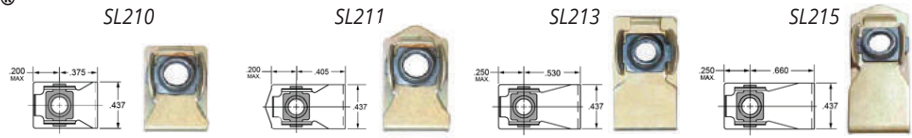
CAD Plated, Dry Film Lubricant  
1100 MPa (235° C)



Part #	Thread Size	A Max	C Min	W	H Max	S Min
3PH135M	M3 x 0.5	6	4.2	4	3	1.2
4PH135M	M4 x 0.7	8	5.3	5	4	1.5
5PH135M	M5 x 0.8	9.2	6.5	6	5	2.3
6PH135M	M6 x 1.0	10.5	7.6	7	5.4	2.3
8PH135M	M8 x 1.25	13.6	10.9	10	7	3.3
10PH135M	M10 x 1.5	16.6	13.2	12	8.5	4
12PH135M	M12 x 1.5	19.8	15.5	14	10.5	4.5

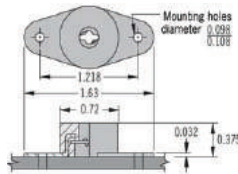
Part #	Thread Size	A Max	C Min	W	H Max	S Min
8100PH135M	M8 x 1.0	13.6	10.9	10	7.2	3.2
10125PH135M	M10 x 1.25	16.6	13.2	12	9	3.8
12125PH135M	M12 x 1.25	19.9	15.5	14	10.8	4.5

## SHUR-LOK® CLIP NUT



Shur-Lok Part #	Thread	Max. Edge Distance	Installation Hole Size	Panel Thickness	Shur-Lok Part #	Thread	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

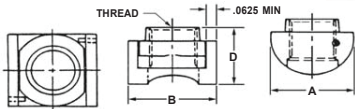


## LORD COWLING MOUNTS

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

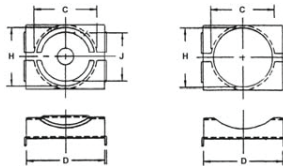
## MS21063

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

Part #	Nut Element Spacing	Max # of Nut Element
MS21063L		
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



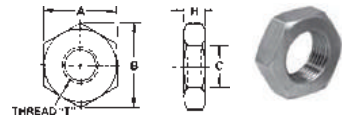
## NAS578 Floating Barrel Nut Retainer



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

## MS25082

Hexagon Nut  
Thin Electrical

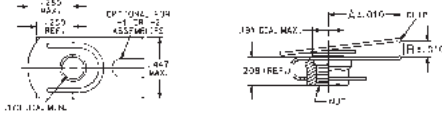


MS25082	Thread	A	B	C	H
-2	.1640-32	.338	.388	.194	.078
-3	.1900-32	.369	.423	.220	.078
-12		.246	.282	.220	.078
-4	.2500-28	.433	.495	.280	.089
-13		.307	.352	.280	.078



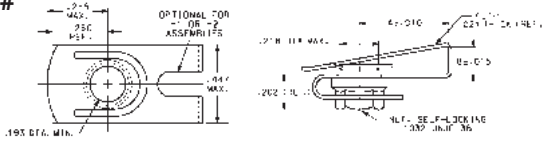
## MONADNOCK CLIP NUTS

### 13080000-#



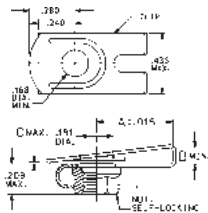
Part #	Thread	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13080000-3	8-32	.395	.163	.375	.020 - .120	.192 - .202
13080000-4	8-32	.520	.190	.500	.020 - .120	.192 - .202
13080000-5	8-32	.665	.190	.625	.020 - .120	.192 - .202

### 13100000-#

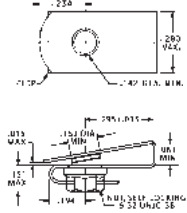


Part #	Thread	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13100000-2	10-32	.300	.130	.281	.020 - .120	.220 - .230
13100000-3	10-32	.395	.163	.375	.020 - .090	.220 - .230
13100000-4	10-32	.520	.190	.500	.020 - .120	.220 - .230
13100000-5	10-32	.665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

### 130007, 130008



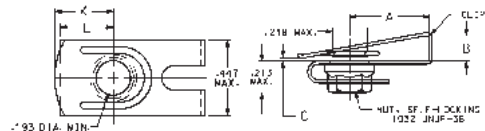
### 294667



Part #	Thread	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

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

### 130061, 130062, 130068

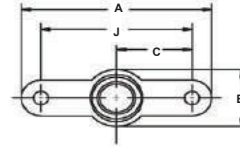


Part #	Thread	A±.015	B Min.	C Max.	C Min.	K Max.	L Max.	Sheet Thickness	Nominal Edge Margin
130061	10-32	.515	.095	.015	.000	.338	.281	.020 - .090	.350 - .500
130062	10-32	.665	.095	.015	.000	.338	.281	.020 - .090	.510 - .650
130068	10-32	.740	.235	.120	.010	.338	.281	.140 - .230	.600 - .710

## MS21047 - TWO LUG, LOW HEIGHT NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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



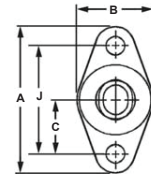
**MS21047** - Available without Dry Film Lube

**MS21048** - Two Lug Nutplate Corrosion Resistant

## MS21049 - TWO LUG, LOW HEIGHT 100° COUNTERSUNK

"K" Suffix Indicates Countersunk or Dimpled 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



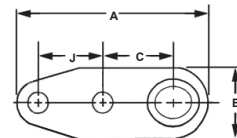
**MS21049** - Available without Dry Film Lube

**MS21050** - Two Lug, Low Height Nutplate Corrosion Resistant

## MS21051 - ONE LUG NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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** - Available without Dry Film Lube

**MS21052** - One Lug Nutplate Corrosion Resistant

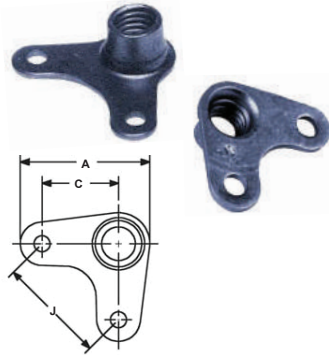
## MS21055 - CORNER NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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 - Available without Dry Film Lube

MS21056 - Corner Nutplate Corrosion Resistant



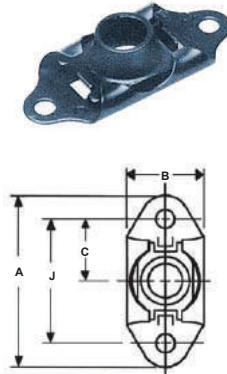
## MS21059 - TWO LUG, LOW HEIGHT, FLOATING NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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 - Available without Dry Film Lube

MS21060 - Two Lug, Low Height, Floating Corrosion Resistant



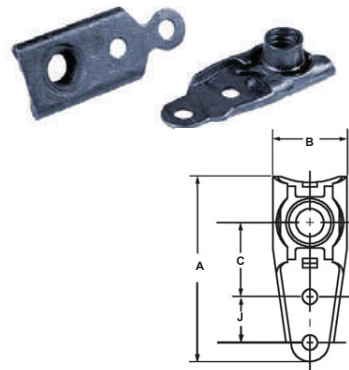
## MS21061 - ONE LUG, FLOATING NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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 - Available without Dry Film Lube

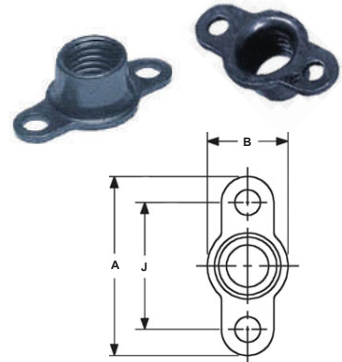
MS21062 - One Lug, Floating Nutplate Corrosion Resistant



## MS21069 - TWO LUG, LOW HEIGHT MINIATURE NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled 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



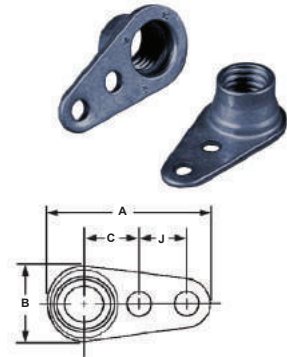
MS21069 - Available without Dry Film Lube

MS21070 - Two Lug, Low Height Miniature Corrosion Resistant

## MS21071 - ONE LUG, LOW HEIGHT MINIATURE NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled Riveting Holes

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



MS21071 - Available without Dry Film Lube

MS21072 - One Lug, Low Height Miniature Corrosion Resistant

## MS21073 - CORNER, LOW HEIGHT MINIATURE NUTPLATE

"K" Suffix Indicates Countersunk or Dimpled Riveting Holes

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



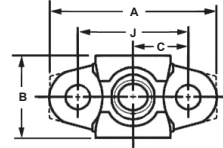
MS21073 - Available without Dry Film Lube

MS21074 - Corner, Low Height Miniature Corrosion Resistant

(NAS698C) Reference MS21073 for Sizes

## 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

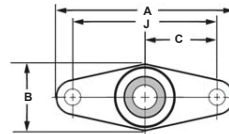


**MS21075** - Available Without Dry Film Lube

**MS21076** - Two Lug, Low Height Miniature Corrosion Resistant

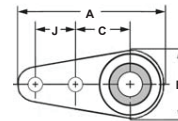
## MS21078 - TWO LUG NUTPLATE WITH NYLON INSERT

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



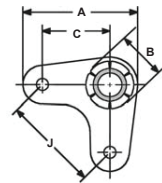
## MS21080 - ONE LUG NUTPLATE WITH NYLON INSERT

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



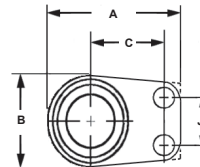
## MS21081 - CORNER NUTPLATE WITH NYLON INSERT

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

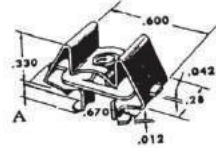
Thread Size	A Max	B Max	C Max	J Max	Height Max	MS21086
8-32	.486	.297	.234	.219	.250	L08
10-32	.521	.328	.250	.219	.250	L3
1/4-28	.591	.414	.281	.219	.281	L4





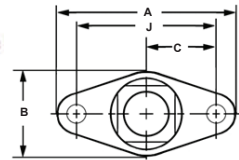
## MS33737 - INSTRUMENT MOUNTING NUT

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



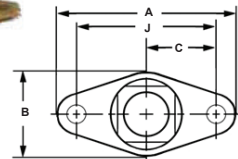
## NAS1473 - TWO LUG, FLOATING, CAPPED NUTPLATE

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



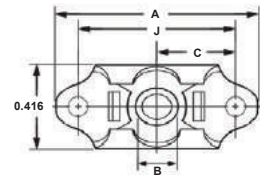
## NAS1474 - TWO LUG, FLOATING, CAPPED NUTPLATE, WITH REDUCED RIVET SPACING

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



## METRIC - TWO LUG FLOATING



Part #	Alt Part #	Hole Spacing	Thread Size
3JSF50009M	LN29679AM3	17	M3 x 0.5
4JSF50009M	LN29679AM4	17	M4 x 0.7
5JSF50009M	LN29679AM5	19	M5 x 0.8
6JSF50009M	LN29679AM6	22	M6 x 1.0

## METRIC - TWO LUG FLOATING, MINATURE

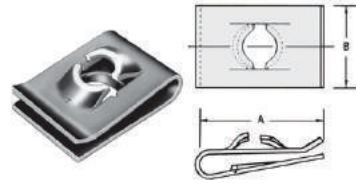


Part #	Hole Spacing	Thread Size
4JSMF50209M	12	M4 x 0.7
5JSMF50209M	14	M5 x 0.8
6JSMF50209M	16	M6 x 1.0

## TINNERMAN® NUT

"U" Type

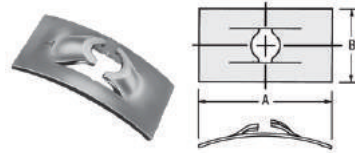
Tinnerman Part #	Screw Size	For Ref. Only	A Length	B Width
A1784-6Z1D	#6	NAS395-6	.610	.440
A1785-6Z1D	#6	NAS395-7	.840	.440
A1786-8Z1D	#8	NAS395-12	.530	.500
D1274-8-1	#8	NAS395-14	.500	.500
A1789-8Z1D	#8	NAS395-16	.610	.440
A1348-8Z1D	#8	NAS395-17	.730	.500
A1787-8Z1D	#8	NAS395-18	.840	.440
A1788-8Z1D	#8	---	.840	.440
A1758-10Z1D	#10	NAS395-24	.620	.440
A1787-10Z1D	#10	---	.840	.440
A1932-8Z1D	#8	---	.580	.500



## TINNERMAN® NUT

"Flat" Type

Tinnerman Part #	Screw Size	For Ref. 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



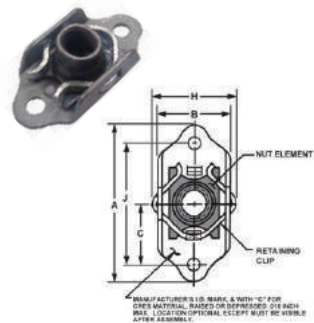
Tinnerman Part #	Screw Size
A6195-6Z1D	#6
A6195-8Z1D	#8

Tinnerman Part #	Screw Size
A6196-6Z1D	#6
A6196-8Z1D	#8

## NAS1791 - TWO LUG, SELF-LOCKING, FLOATING, VARIABLE COUNTERBORE NUTPLATE

Replaceable Nut Element,  
125 KSI, 450°F & 800°F

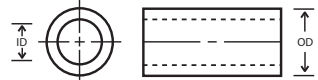
Thread Size	A Max	B Max	C ±.005	H Max	J ±.002	Height Max	NAS1791	NAS1791
10-32	.948	.445	.344	.484	.688	.640	A3-1	C3-1
						.640	A3-2	C3-2
						.755	A3-3	C3-3
						.823	A3-4	C3-4
1/4-28	1.292	.547	.500	.584	1.00	.640	A4-1	C4-1
						.640	A4-2	C4-2
						.755	A4-3	C4-3
						.823	A4-4	C4-4





## NAS43DD - SPACERS

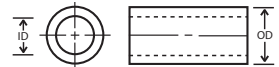
"FC" Indicates Chemical Film Finish  
"N" Indicates Gray Anodised Finish



.214 ID / .312 OD (#8 & #10 Screws & Bolts)						.277 OD / .250 ID (1/4" Bolts)	
NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD4-	Length
4FC	1/16	22FC	11/32	42FC	21/32	8FC	1/8
5FC	5/64	23FC	23/64	44FC	11/16	10FC	5/32
6FC	3/32	24FC	3/8	48FC	3/4	12FC	3/16
7FC	7/16	24N	3/8	48N	3/4	16FC	1/4
8FC	1/8	26FC	13/32	52N	13/16	20FC	5/16
8N	1/8	28FC	7/16	54FC	27/32	24FC	3/8
10FC	5/32	30FC	15/32	56FC	7/8	26FC	13/32
12FC	3/16	32FC	1/2	58FC	29/32	28FC	7/16
12N	3/16	32N	1/2	64FC	1	30FC	15/32
14FC	7/32	34FC	17/36	64N	1	32FC	1/2
15FC	15/64	35FC	35/64	64N	1	36FC	9/16
16FC	1/4	36FC	9/16	80N	1-1/4	40FC	5/8
16N	1/4	38FC	19/32	96FC	1-1/2	42FC	21/32
18FC	9/32	40FC	5/8	112FC	1-3/4	48FC	3/4
20FC	5/16	40N	5/8	128FC	2	64FC	1

## NAS43HT - SPACERS

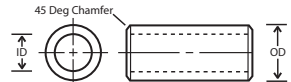
"HT" Indicates Heat Treated  
Alloy Steel CAD II Plated



NAS43HT	Length	O.D.	I.D.	NAS43HT	Length	O.D.	I.D.
0-8	1/8	.188	.1315	3-24	3/8	.312	.2140
3-8	1/8	.312	.2140	3-28	7/16	.312	.2140
3-10	10/64	.312	.2140	3-32	1/2	.312	.2140
3-12	3/16	.312	.2140	3-48	3/4	.312	.2140
3-14	7/32	.312	.2140	4-6	3/32	.250	.2765
3-16	1/4	.312	.2140	4-8	1/8	.250	.2765
3-18	9/32	.312	.2140	4-10	10/64	.250	.2765
3-20	5/16	.312	.2140	4-12	3/16	.250	.2765
3-22	11/32	.312	.2140	4-16	1/4	.250	.2765

## NAS75 - BUSHINGS

Bushings Plain, Press Fit  
Alloy Steel CAD II Plated



NAS75-3 .314 OD / .190 ID	Length	NAS75-4 .376 OD / .250 ID	Length	NAS75-5 .439 OD / .313 ID	Length
-003	3/32	-003	3/32	---	3/32
-004	1/8	-004	1/8	-004	1/8
-005	5/32	-005	5/32	---	5/32
-006	3/16	-006	3/16	-006	3/16
-007	7/32	-007	7/32	-007	7/32
-008	1/4	-008	1/4	-008	1/4
-009	9/32	-009	9/32	-009	9/32
-010	5/16	-010	5/16	-010	5/16
---	11/32	-011	11/32	-011	11/32
-012	3/8	-012	3/8	-012	3/8
-013	13/32	-013	13/32	-013	13/32
-014	7/16	---	7/16	-014	7/16
---	15/32	---	15/32	-015	15/32
-016	1/2	-016	1/2	---	1/2





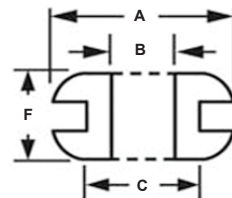
## MS35489 - GROMMETS

AN931 - Alternate #

No Code (after dash #) - Synthetic Rubber

X (after dash #) - Silicone Rubber

MS35489-	AN931-	B - Hole	C - Groove	A - Outside	F - Thickness
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 - Packing / 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
.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 - Packing / 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
	2.850	336
	2.975	337
	3.100	338
	3.225	339
3.350	340	
3.475	341	
3.725	343	



## MS28773

Back Up Retainer  
Material - Teflon



MS28773	Width	Nom. Tube O.D.	Thickness
-04	.117	1/4	.061
-05	.117	5/16	.061
-06	.121	3/8	.061
-08	.125	1/2	.061
-10	.131	5/8	.073
-12	.169	3/4	.073
-16	.169	1	.073

## MS28774

Back Up Retainer  
Material - Teflon



Thickness	Width	I.D.	MS28774		
.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		
.045	.085	.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		
		.766	-210		
		.828	-211		
		.891	-212		
		.953	-213		
1.016	-214				
.052	.087	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		
		1.638	-326		
		1.763	-327		
		1.888	-328		
		2.013	-329		
.065	.182	2.138	-330		
		2.268	-331		
		2.393	-332		
		.075	.184		

## MS28776

Scraper Piston Rod  
Material - Metal



Cross-section of MS28776

Part #	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 / O'Ring

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 / O'Ring**

Thickness	Tubing O.D.	MS29512
.064	1/8	-02
.064	3/16	-03
.072	1/4	-04
.072	5/16	-05
.078	3/8	-06
.082	7/16	-07
.087	1/2	-08

Thickness	Tubing O.D.	MS29512
.097	9/16	-09
.097	5/8	-10
.116	3/4	-12
.116	7/8	-14
.116	1	-16
.118	1-1/4	-20

**MS29513 - Packing / O'Ring**

Thickness	Inside Dia.	MS29513
.070	.101	-005
	.114	-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
	.926	-021
	.986	-022
	1.051	-023
	1.114	-024
	1.176	-025
	1.239	-026
	1.301	-027
1.489	-029	
1.739	-031	
2.114	-034	
.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
	1.362	-126
	1.424	-127

Thickness	Inside Dia.	MS29513
.103	1.549	-129
	1.612	-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
	2.174	-139
	2.237	-148
	.734	-210
	.859	-212
	.921	-213
	.984	-214
	1.046	-215
1.109	-216	
1.171	-217	
1.234	-218	
1.296	-219	
1.359	-220	
1.484	-222	
1.609	-223	
1.734	-224	
1.859	-225	
1.984	-226	
2.109	-227	
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	
3.734	-240	
3.859	-241	
4.109	-243	
1.725	-327	
.210	3.100	-338

**Thickness and Inside Diameter Dimensions Deviate ± .003 to ± .005  
Larger O'Ring Dimensions Deviate ± .01 on I.D.**



### MS29561 - Packing / O'Rings

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
.139	2.112	-138
	.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 - Packings / O'Rings

MS9385
-03
-04
-05
-06
-07
-08
-09
-12

### M25988/1 - Packings / O'Rings

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 - Packings / O'Rings

M25988/2-032
M25988/2-904
M25988/3-009
M25988/3-013
M25988/3-014
M25988/4-010
M25988/4-904

### M83461/1 - Packings / O'Rings

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 - Packings / O'Rings

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  $\pm 0.003$  to  $\pm 0.005$   
Larger O'Ring Dimensions Deviate  $\pm 0.01$  on I.D.



## NAS617 - Packings / O'Rings

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

"S" 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 Aluminium Alloy

Screw Size	O.D.	I.D.	NAS1523
#8	.375	.156	-08Y
			-3R
			-3Y
#10	.438	.190	AA3R
			C3R
			C3Y
			-4R
			-4Y
1/4	.500	.240	AA4R
			C4N
			C4R
			C4Y
			-5Y
5/16	.593	.301	C5R

## NAS1612 - Packings / O'Rings

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 - Packings / O'Rings

AS3084
-03
-04
-05
-06
-08
-12

## AS3085 - Packings / O'Rings

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 - Packings / O'Rings

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 - Packings / O'Rings

(Supersedes MS9021)

AS3578
-010
-016
-017
-034
-035
-038
-251
-268
-903
-904
-905
-906
-908

## AS3582 - Packings / O'Rings

AS3582
-012
-013
-014
-116
-119

## AS3208 - Packings / O'Rings

AS3208	AS3208
-03	-06
-04	-08
-05	-10

## S9412 - Packings / O'Rings

S9412	S9412
-010	-136
-011	-139
-012	-212
-013	-552
-014	-553
-015	-554
-021	-555
-028	-556
-032	-558



## Packings / 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	FLUROSILICONE O'Rings - Oil and Fuel Resistant
M25988/3	MIL-R-25988 Class 1, Grade 60	-80 to 350	FLUROSILICONE O'Rings - Oil and Fuel Resistant
M25988/4	MIL-R-25988 Class 1, Grade 80	-80 to 350	FLUROSILICONE 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 MIL-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.



## 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	
MS28778-5	MS28775-009	MS29512-05
MS28778-6	MS28775-010	MS29512-06
MS28778-7	MS28775-011	
MS28778-8	MS28775-012	MS29512-08
MS28778-10	MS28775-013	MS29512-10
MS28778-12	MS28775-014	MS29512-12
	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		M83248/1-113
MS29513-010	MS29512-02	M83248/1-904
MS29513-011	MS29512-04	M83248/1-905
MS29513-214	MS29512-05	M83248/1-906
MS29513-232	MS29512-06	M83248/1-908
MS29513-338	MS29512-08	
	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



## 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
4570	4626	Q4631

### 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 #	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	SOCKET	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 #	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	SOCKET	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 #	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

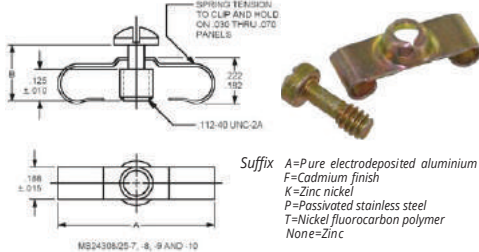
## M81969 INSERTION/EXTRACTION TOOL



Part #	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

## M24308/25

Male screwlock assembly. Electric, miniature, rectangular, polarized shell, rack and panel



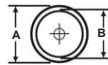
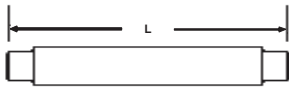
## M24308/26

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

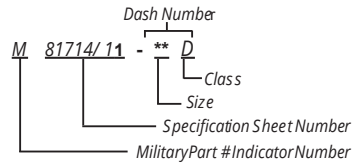


## M81714/11-#D

Terminal junction blocks, Sectional, Wire in-line junctions, Single, Series I



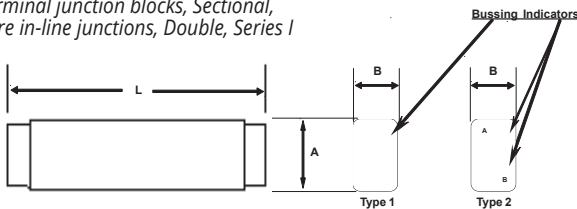
### Part Number Example



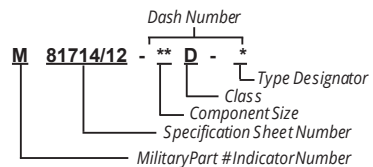
Part #	Body			Contact Part #	Installation/ Removal Tool
	A Dia. ± .025	B Dia. Max	L Max		
M81714/11-22D	.250	.225	1.552	M39029/1-100	M81969/14-02
M81714/11-20D	.250	.225	1.552	M39029/1-101	M81969/14-02
M81714/11-16D	.281	.256	1.922	M39029/1-102	M81969/14-03
M81714/11-12D	.344	.319	1.922	M39029/1-103	M81969/14-04

## M81714/12-#D

Terminal junction blocks, Sectional, Wire in-line junctions, Double, Series I



### Part Number Example



Part #	Type	Body				Contact Part #	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

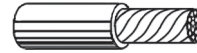


## AIRCRAFT WIRE

Per MIL-W-22759/16

(-9 suffix indicates white) (-0 suffix indicates black)

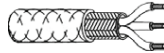
Part #	AWG Size
M22759 / 16-22-9	22
M22759 / 16-20-9	20
M22759 / 16-18-9	18
M22759 / 16-16-9	16
M22759 / 16-14-9	14



Part #	AWG Size
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 Size	Color Code
324484	26-16	Clear
324485	22-16	Red
324486	16-14	Blue

## D436

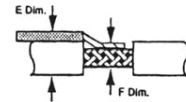
Mini-Seal  
Crimp Splices



Part #	MS Part #	AWG Size
D436-36	M81824/1-1	20-26
D436-37	M81824/1-2	16-20
D436-38	M81824/1-3	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

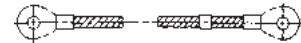
SPT - Teflon - Call for Pricing



SPN		SPB		Nom. O. D.	Wall Thickness	Pitch	Diameter
Old #	New #	Old #	New #				
SPN-1/8	SW20	SPB-1/8	SW40	.125	.015	1/16	1/2
SPN-1/4	SW21	SPB-1/4	SW41	.250	.025	9/32	2
SPN-3/8	SW22	SPB-3/8	SW42	.375	.035	3/8	3
SPN-1/2	SW23	SPB-1/2	SW43	.500	.035	1/2	4

## MS25083

Bonding Jumpers



MS25083-	MS25083-
1BB7	2AB6
1BB8	2AB7
2AA3	2AB8
2AA4	2BB2
2AA5	2BB3
2AA6	2BB4
2AA7	2BB5
2AA8	2BB6
2AB3	2BB7
2AB4	2BB8
2AB5	2BB10

MS25083-	MS25083-
2BC4	5BB8
2BC5	5BB9
2BC6	5BB10
2BC7	5BB12
2BC8	5BB15
2BC9	6DD5
5BB4	6DE7
5BB5	7AB10
5BB6	7BB6
5BB7	7BB8



## MS25274

Wire Cap



MS25274	Amp Part #	AWB Size	Color
-2	328307	22-18	RED
-3	328308	16-14	BLUE
-4	328309	12-10	YELLOW

## MS25171-#S

Nipple, Electrical



MS25171-	Length
1S	1.38
2S	2.50
3S	2.50
4S	2.50

## MS3367

Tie Wraps / Thomas & Betts®

Use T&B Part # for 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



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



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.

## Potter & Brumfield® Circuit Breakers Series W23

Single Pole with white band around body of reset button that is visible if breaker trips.



Part #	Rating (A)	Part #	Rating (A)
W23-X1A1G-5	1/2	W23-X1A1G-15	15
W23-X1A1G-1	1	W23-X1A1G-20	20
W23-X1A1G-2	2	W23-X1A1G-25	25
W23-X1A1G-3	3	W23-X1A1G-30	30
W23-X1A1G-5	5	W23-X1A1G-35	35
W23-X1A1G-7.5	7.5	W23-X1A1G-40	40
W23-X1A1G-10	10	W23-X1A1G-50	50

## Potter & Brumfield® Circuit Breakers Series W58

Single pole with recessed reset button. Red band around reset button for visible trip indication.



Part #	Rating (A)	Part #	Rating (A)
W58-XC4C12A-1	1	W58-XC4C12A-8	8
W58-XC4C12A-2	2	W58-XC4C12A-10	10
W58-XC4C12A-3	3	W58-XC4C12A-15	15
W58-XC4C12A-4	4	W58-XC4C12A-20	20
W58-XC4C12A-5	5	W58-XC4C12A-25	25
W58-XC4C12A-7	7	W58-XC4C12A-30	30

## Potter & Brumfield® Circuit Breakers Series W31

Combination single pole switch and circuit breaker



Part #	Rating (A)	Part #	Rating (A)
W31-X2M1G-2	2	W31-X2M1G-25	25
W31-X2M1G-5	5	W31-X2M1G-30	30
W31-X2M1G-7.5	7.5	W31-X2M1G-35	35
W31-X2M1G-10	10	W31-X2M1G-40	40
W31-X2M1G-15	15	W31-X2M1G-50	50
W31-X2M1G-20	20		

## Klixon® Circuit Breakers Series 7277-2

Low amperage general application



Part #	Rating (A)	Part #	Rating (A)
7277-2-1/2	1/2	7277-2-5	5
7277-2-1	1	7277-2-7-1/2	7.5
7277-2-2	2	7277-2-10	10
7277-2-2-1/2	2.5	7277-2-15	15
7277-2-3	3	7277-2-20	20
7277-2-4	4		

## Klixon® Circuit Breakers Series 7274

Low Amperage High Performance



(7274-2 Style)



(7274-11 Style)

Klixon Part #	MS Part #	Klixon Part #	MS Part #
7274-2-1	MS26574-1	7274-11-1	MS22073-1
7274-2-2	MS26574-2	7274-11-1.5	MS22073-1.5
7274-2-3	MS26574-3	7274-11-2	MS22073-2
7274-2-4	MS26574-4	7274-11-2.5	MS22073-2.5
7274-2-5	MS26574-5	7274-11-3	MS22073-3
7274-2-7.5	MS26574-7.5	7274-11-4	MS22073-4
7274-2-10	MS26574-10	7274-11-5	MS22073-5
7274-2-15	MS26574-15	7274-11-7.5	MS22073-7.5
		7274-11-10	MS22073-10
		7274-11-15	----

## MS3320 Circuit Breaker Series 2TC2

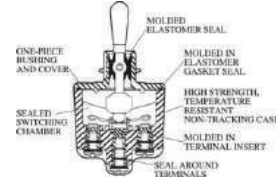
Miniature, Trip Free



Klixon Part #	MS Part #
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

## MS24523 MS24524

Toggle Switch  
Environmentally Sealed  
Maintained and Momentary Toggle Action



2 Position, 1 Pole			2 Position, 2 Poles			3 Position, 2 Poles			
MS24523	Keyway Position	Opposite Keyway	MS24524	Keyway Position	Opposite Keyway	MS24524	Keyway Position	Centre Position	Opposite Keyway
-22	OFF	2-3	-22	OFF	2-3, 5-6	-21	1-2, 4-5	OFF	2-3, 5-6
-29	OFF*	2-3	-30	1-2, 4-5*	OFF	-31	1-2, 4-5*	OFF	2-3, 5-6
-30	1-2*	OFF	-23	1-2, 4-5	2-3, 5-6	-27	1-2, 4-5*	OFF	2-3, 5-6
-23	1-2	2-3	-26	1-2, 4-5*	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.

## MS25223 & MS25224

Switch Guard



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

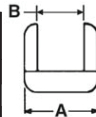


MS25041 With Dimmer	MS25041 Without Dimmer	Lens Color
-1	-5	Colorless
-2	-6	Red
-3	-7	Green
-4	-8	Yellow
-10	-11	Blue

## 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

## THOMAS & BETTS STA-KON<sup>®</sup> TERMINALS

### Sta-Kon<sup>®</sup> Nylon Insulated Ring - Insulation Grip



Part #	AWG 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<sup>®</sup> Nylon Insulated Splices - Aircraft System Splices



Part #	AWG Range
2RAA	22-18
2RBB	16-14
2RCC	12-10

### Sta-Kon<sup>®</sup> Nylon Insulated Splices - Butt Type - Insulation Support



Part #	AWG Range
2RA18	22-18
2RB14	16-14
2RC10	12-10

### Non-Insulated Ring



Part #	AWG Range	Bolt Hole
F4-14	4-3	1/4"
F71		1/4"

### Sta-Kon<sup>®</sup> Wristlock Disconnect



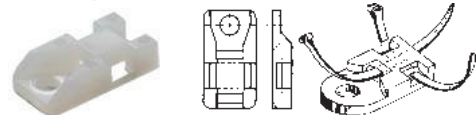
Part #	AWG Range
RA18D	22-18
RB14D	16-14

### Vinyl Insulated Ring - Insulation Support



Part #	Alternate	AWG 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<sup>®</sup> Two Direction Mounting Base



Part #	Alternate	Screw Size	Max Width	Length
TC5828	TC828-T13	#8	.390	.875

### Nylon Insulated Ring



Part #	AWG Range	Bolt Hole
RD8-10	9-8-7	#10
RD8-38		3/8"
RF4-10		#10
RF4-14	4-3	1/4"
RF4-516		5/16"
RF4-38		3/8"
RG2-10	2-1	#10
RG2-14		1/4"
RG2-38		3/8"





## MS25036

Ring Terminal, Insulated



MS25036-	AMP Part #	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

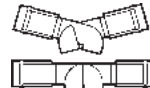
## M7928/5

Butt Splice, Knife Splice

Butt Splice  
M7928/5-



Knife Splice



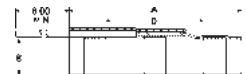
MIL Part #	AMP Part #	Wire Size	Style / Color	Type
M7928/5-2	323975	24 - 20 AWG	PIDG / TRANS.	Butt Splice
M7928/5-3	320559	22 - 18 AWG	PIDG / RED	Butt Splice
M7928/5-4	320562	16 - 14 AWG	PIDG / BLUE	Butt Splice
M7928/5-5	320570	12 - 10 AWG	PIDG / YELLOW	Butt Splice
---	32446	22 - 18 AWG	PIDG / RED	Knife Splice
---	32448	16 - 14 AWG	PIDG / BLUE	Knife Splice

## M83519

Terminal Shield  
Solder Style  
Insulated Heat Shrinkable



M83519/1 (No wire)



M83519/2 (With wire)

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

## MS27212

Terminal Board Assembly  
Molded-In Stud  
Diallylisophthalate Plastic

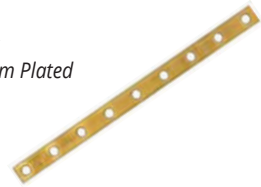


Assembly No.	Thread	Max. # of Studs
MS27212-1-(N)	.138-32	20
MS27212-2-(N)	.1900-32	16
MS27212-3-(N)	.2500-28	8

(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-#S#

Plastic Laminate Cover Assembly (Type S)  
for MS27212 terminal board,  
Available with or without Knobs  
(N) indicates number of studs

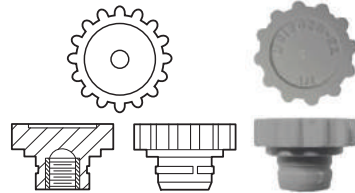
Assembly P/N With Knobs	Stud Size	Assembly P/N Without Knobs
MS18029-1S(N)	.138-32	MS18029-11S(N)
MS18029-2S(N)	.1900-32	MS18029-12S(N)
MS18029-3S(N)	.2500-28	MS18029-13S(N)



## MS18029-##

Knob  
NOTE: Knob assembly comes with the retaining ring

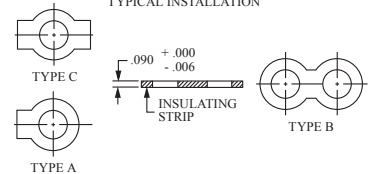
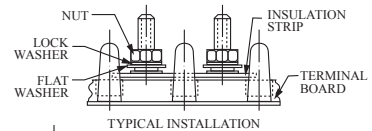
Knob Assembly	Internal Thread	Retaining Ring
MS18029-21	.138-32	MS16624-1040
MS18029-22	.1900-32	MS16624-1040
MS18029-23	.2500-28	MS16624-1062



## MS3373

Insulating Mounting  
for MS27212 terminal board

MS3373	Used on MS27212
A1 B1 C3	-1
A3 B3 C3	-2
A3 B3 C3	-3

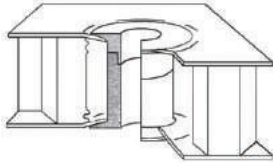




## PANEL INSERTS

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°

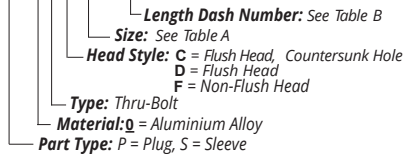
### Part Number Selection

Two part numbers-Sleeve & Plug-are required.

Example:

TYE S 1 0 2 F 10 - 08

TYE P 1 0 2 C 10 - 1



### 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, Aluminium 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 #	H	.085	.116
	G	.250	.281
-04	.165	.375	.406
-06	.290	.500	.531
-08	.415	.625	.656
-10	.540	.750	.781
-12	.665		

■ = 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



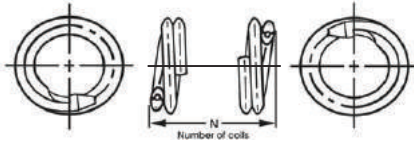
## NAS1130

Tangleless Insert, Helical Coil  
Screw Thread, Free Running, Self-Locking  
Type 304 Corrosion Resistant Steel

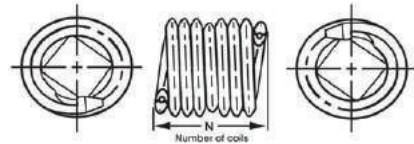


No Letter after the First Dash # designates: Free Running  
"L" after the First Dash # designates: Self-Locking  
Add a "D" after the Second Dash # to designate: Dry Film Lubricant  
Add a "P" after the Second Dash # to designate: Cadmium Plating  
No Letter after the Second Dash # designates: No Finish

**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

Thread	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



"A" Indicates Alloy Steel,  
"C" Indicates Corrosion Resistant Steel  
Add an "L" after Dash # for Self-Locking

Thread Int.	Thread Ext.	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



"A" Indicates Alloy Steel,  
"C" Indicates Corrosion Resistant Steel  
Add an "L" after Dash # for Self-Locking

Thread Int.	Thread Ext.	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



## MS21209

Helicoil® Insert

"C" indicates Coarse Thread

"F" indicates Fine Thread

"L" indicates Dry Film Lube

"P" indicates Cadmium Plating



Coarse Thread, UNC	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, UNF	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

## 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 (L)	J
NAS1832-08-3	.1640-32	.375	.367
NAS1832-08-3M		.375	
NAS1832-08-4		.500	
NAS1832-08-6	.1900-32	.750	.367
NAS1832-3-3		.375	
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 Aluminium  
 Add "C" after Basic Part # for Corrosion Resistant

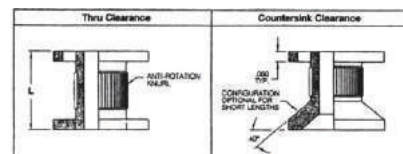
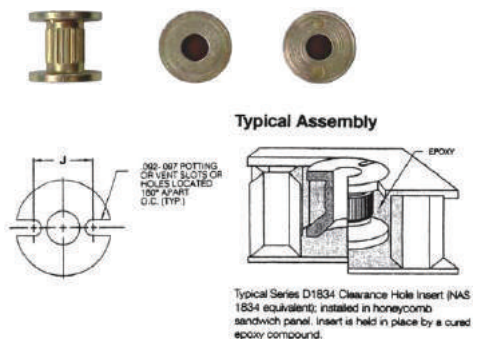
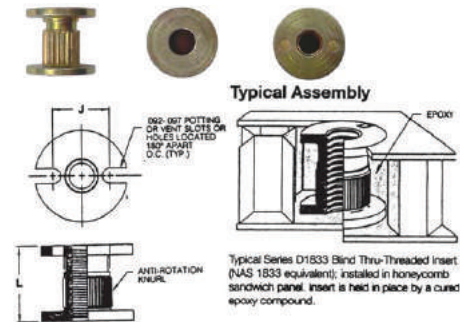
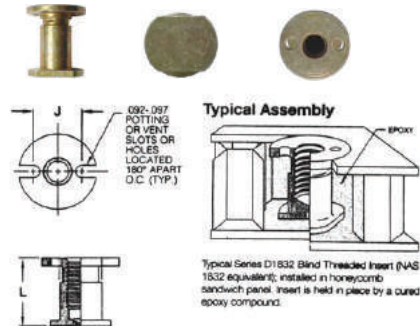
Part #	Thread	Length (L)	J
NAS1833-08-250	.1640-32	.250	.367
NAS1833-08-375		.375	
NAS1833-08-500		.500	
NAS1833-3-250	.1900-32	.250	.367
NAS1833-3-300		.300	
NAS1833-3-375		.375	
NAS1833-3-500		.500	
NAS1833-3-750		.750	

### NAS1834 - INSERT

Countersunk and Thru Clearance Hole Sandwich Panel

Suffix "K" after 1st Dash # indicates Countersunk  
 "A" after Basic Part # indicates Aluminium  
 "C" after Basic Part # indicates Corrosion Resistant

Part #	Clearance Hole	Length (L)	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	
NAS1834-4-500	.500		
NAS1834-4K500	.500		
NAS1834-4-750	.750		
NAS1834-4K750	.750		

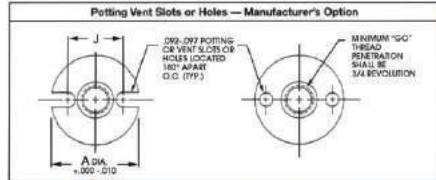
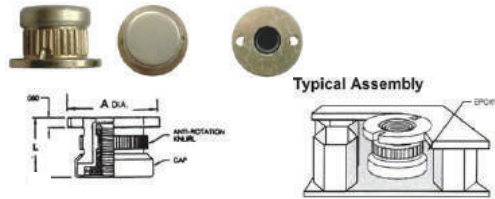


## NAS1835 - INSERT

Molded In, Blind Threaded  
Floating Sandwich Panel

No Letter after Basic Part # indicates Carbon Steel  
"A" after Basic Part # indicates Aluminium 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				

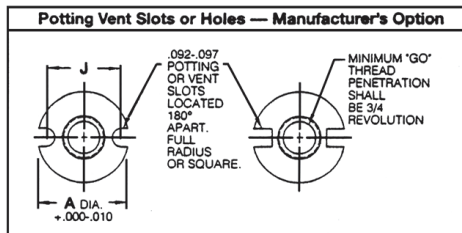
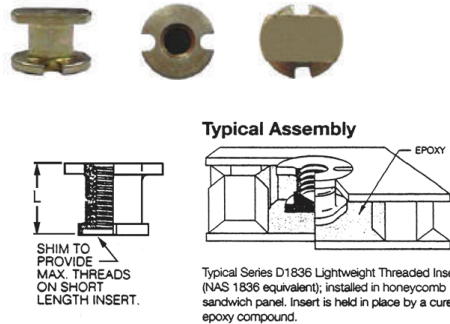


## NAS1836 - INSERT

Blind Threaded / Lightweight, Sandwich Panel

No Letter after Basic Part # indicates Carbon Steel  
"A" after Basic Part # indicates Aluminium Alloy Housing  
"C" indicates Corrosion Resistant

Part #	Thread	Length (L)
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





## Q200M - 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

## Q100M - 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 / 3608
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



## MS21919WDG - CUSHION CLAMP

Aluminium Band,  
Chloroprene Cushion (212°F)  
Use "DG" to remove locking wedge feature (W)



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°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°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°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

Aluminium Band,  
Nitrile Cushion  
(212°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

**AN742**  
**Clamp, Plain, Steel,**  
 "D" after Base # is Aluminium



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**



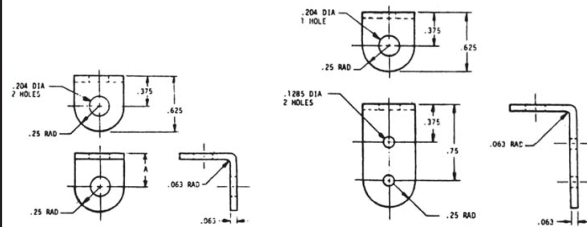
To Fit Diameter	M85052/2-
1/8	2
3/16	3
1/4	4
5/16	5
3/8	6
7/16	7
1/2	8
9/16	9
5/8	10
11/16	11
3/4	12

**AN735D**  
**Clamp Loop**  
 Type Bonding  
 Aluminium



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.  
 Assists the user threading a nut  
 onto the clamp screw.



**MS25281**  
**Wire Loop Clamp,**  
**Plastic**



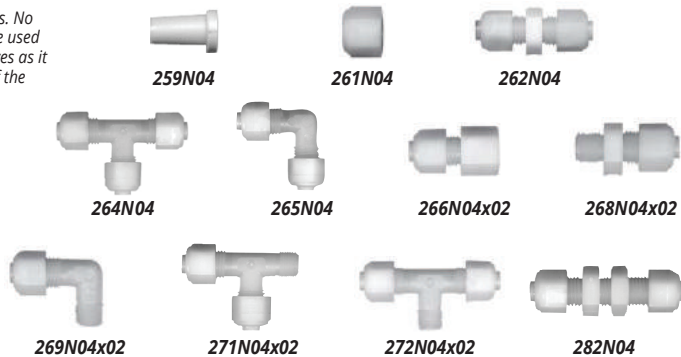
Dia.	MS25281	Dia.	MS25281
1/8	R2	5/8	R10
3/16	R3	11/16	R11
1/4	R4	3/4	R12
5/16	R5	13/16	R13
3/8	R6	7/8	R14
7/16	R7	15/16	R15
1/2	R8	1	R16
9/16	R9	1-1/8	R18



## 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-Flo tubing.

Part #	Description
259N04	Insert
261N04	Nut/Sleeve
262N04	Union
264N04	Union Tee
265N04	Union Elbow
266N04x02	Female Connector
268N04x02	Male Connector
269N04x02	Male Elbow
271N04x02	Male Run Tee
272N04x02	Male Branch Tee
282N04	Bulkhead Union



## 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-Flo tubing.

Part #	Description
261P04	Nut/Sleeve
262P04	Union
264P04	Union Tee
266P04X02	Female Connector
268P04X02	Male Connector
269P04X02	Male Elbow
272P04X02	Male Branch Tee



## POLY-FLO® 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 #	Description
44PN	Clear Poly-Flo Tubing
44PB	Blue Poly-Flo Tubing
44PGN	Green Poly-Flo Tubing
44PO	Orange Poly-Flo Tubing



## POLY-FLO® 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.

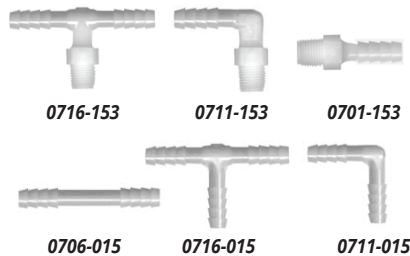
Part #	Description
307-FP	Poly-Flo Tube Cutter



## NYLON INSERT FITTINGS

Used with 1/4" hose or tubing.

Part #	Description
0716-153	Tee Connector
0711-153	Elbow Connector
0701-153	Inline Connector
0716-015	Tee
0711-015	Elbow
0706-015	Inline



## NORPRENE BLACK TUBING

0023-071



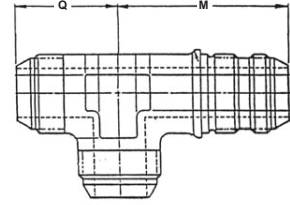
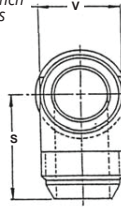
Norprene thermoplastic elastomer tubing is a rubber-like black tubing that will not weaken or crack, even after years of heat or ozone exposure. For use with insert type fittings.

## AN804 - TEE

Alternate: AS1033



Across  
Wrench  
Pads

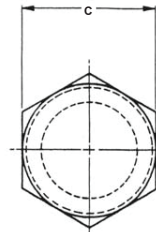
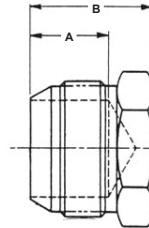


37° Flared Tube, Bulkhead  
Tee / Bulkhead on Run  
AN804D# (Aluminium)  
AN804-# (Steel)  
AN804J# (Corrosion Resistant)

Dash No. AN804	Tube O.D.	Thread Size	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

Alternate: AS5168



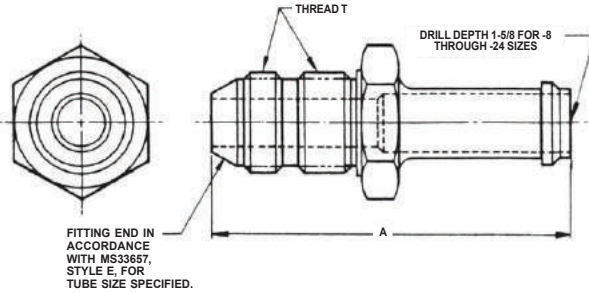
37° Flared Tube  
AN806D# (Aluminium)  
AN806-# (Steel)  
AN806J# (Corrosion Resistant)

Dash No. AN806	Tube O.D.	Thread Size	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

## AN807 - ADAPTER

Alternate: AS5180

Straight, Tube 37° Flared to Hose  
 AN807-#D (Aluminium)  
 AN807-# (Copper Alloy)  
 AN807-#J (Corrosion Resistant)

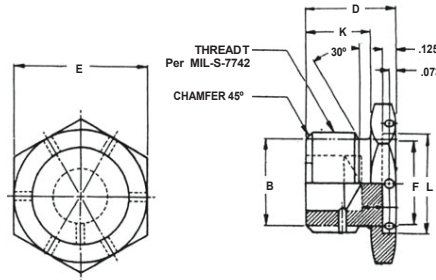


Dash No. AN807	Tube O.D. and Hose I.D.	Thread Size	A
4	1/4	7/16-20	2-13/16
6	3/8	9/16-18	2-61/64
8	1/2	3/4-16	3-7/64
10	5/8	7/8-14	3-17/64
12	3/4	1-1/16-12	3-31/64
16	1	1-5/16-12	3-31/64

## AN814 - BLEEDER PLUG

Alternate: AS5169

Screw Thread  
 AN814-#D (Aluminium)  
 AN814-# (Steel)  
 AN814-#J (Corrosion Resistant)



Add an "L" at end of Part # for Lockwire Holes

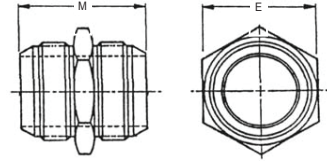
Dash No. AN814	Tube O.D.	Thread Size	B Dia.	D	E	F Dia. +0.002 -0.003	K	L
2	1/8	5/16-24	7/32	35/64	.563	+.004	.250	5/16
3	3/16	3/8-24	9/32	9/16	.625		.313	21/64
4	1/4	7/16-20	11/32	5/8	.688		.364	3/8
5	5/16	1/2-20	13/32		.750	.427	1/2	
6	3/8	9/16-18	15/32	23/32	.813	.482	27/64	9/16
8	1/2	3/4-16	5/8	25/32	1.000	.660	15/32	3/4
10	5/8	7/8-14	3/4		1.125	.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	1.195		1-3/8
20	1-1/4	1-5/8-12	1-1/2		1.875	1.507		1-5/8



## AN815 - UNION

Alternate: AS5174

Male to Male, 37° Flared  
 AN815-#D (Aluminium)  
 AN815-# (Steel)  
 AN815-#J (Corrosion Resistant)

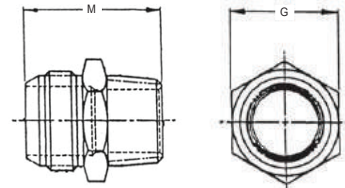


Dash No. AN815	Tube O.D.	Thread Size	E	M
2	1/8	5/16-24	.563	1-7/32
3	3/16	3/8-24	.625	
4	1/4	7/16-20	.688	
5	5/16	1/2-20	.750	1-1/4
6	3/8	9/16-18	.813	1-3/8
8	1/2	3/4-16	1.000	1-9/16
10	5/8	7/8-14	1.125	1-53/64
12	3/4	1 1/16-12	1.375	2-7/64
16	1	1 5/16-12	1.625	2-3/16

## AN816 - ADAPTER

Alternate: AS5194

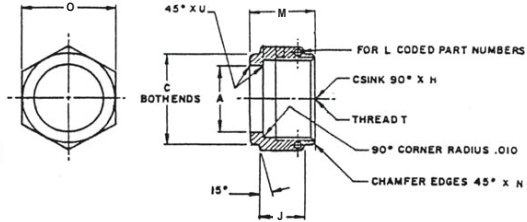
Straight, Pipe to 37° Flared  
 AN816-#D (Aluminium)  
 AN816-# (Steel)  
 AN816-#J (Corrosion Resistant)



Dash No. AN816	Tube O.D.	Pipe Thread ANPT	Flared End Thread Size	G		M +016		
2	1/8	.125	.3125-24	.438	+003 -004	1.016		
3	3/16		.3750-24			1.047		
4	1/4		.250			.4375-20	.500	1.109
4-4		.563		1.375				
5	5/16	.125	.5000-20	.562	+004	1.141		
5-4				.250		.563	1.375	
6-2				3/8		.125	.5625-18	.625
6	.250	.750	1.375					
6-6	.375	.875	1.406					
6-8	1/2	.500	.7500-16	.813	+005	1.625		
7						.250	1.125	1.500
8						.375		1.828
10	5/8	.500	.8750-14	.938	+005	1.844		
10-12						.750	1.953	
12-8	3/4	.500	1.0625-12	1.125	+005	2.187		
12						.750	2.031	
12-16						1.000	2.219	
16-12	1	.750	1.3125-12	1.375	+005	2.031		
16						1.000	2.219	

## AN818 - NUT

Alternate: AS5175



Flared Tube Nut

AN818-#D (Aluminium)

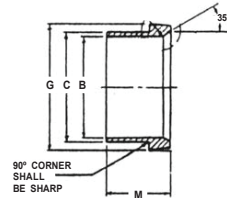
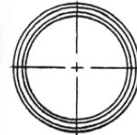
AN818-# (Steel)

AN818-#J (Corrosion Resistant)

Dash No. AN818	Tube O.D.	Thread MIL-S-8879	A Dia. +.003	C Dia. +.000	J	M	O	
2	.125	.3125-24	.180	.375	.312	.542	+.005	.375
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	+.010	.625
6	.375	.5625-18	.440	.687	.500	.724		.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

Alternate: AS5176, AN819



Flared Tube Fitting

MS20819-#D (Aluminium)

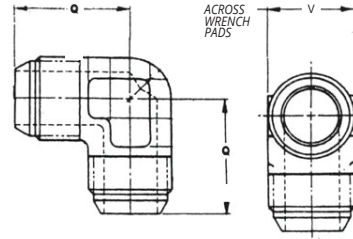
MS20819-# (Steel)

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

## AN821 - ELBOW 90°

Alternate: AS1034



37° Flared Tube

AN821-#D (Aluminium)

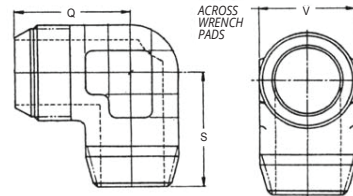
AN821-# (Steel)

AN821-#J (Corrosion Resistant)

Dash No. AN821-	Tube O.D.	Thread	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°

Alternate: AS5195, AN822



Pipe to 37° Flared Tube

MS20822-#D (Aluminium)

MS20822-# (Steel)

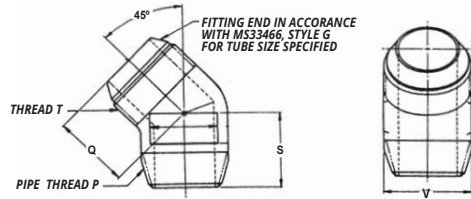
MS20822-#J (Corrosion Resistant)

Dash No. MS20822-	Thread	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V
			ANPT			
2	.312-24	1/8	1/8	.766	.719	.312
3	.375-24	3/16		.828		.375
4	.437-20	1/4		1/4		.891
4-4			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			1/8		.875	
6	.562-18	3/8	1/4	1.062	1.094	.750
6-6			3/8	1.188	1.188	
6-8			1/2	1.312	1.438	
8			3/8	1.250	1.219	
10	.875-14	5/8	1/2	1.453	1.469	.875
10-12			3/4	1.625	1.562	1.062
12-8			1/2			
12	1.062-12	3/4	3/4	1.656	1.594	1.312
12-16			1	1.781	1.938	
16-12			3/4	1.812	1.719	
16			1		1.969	



## MS20823 - ELBOW 45°

Alternate: AS5196, AN823



Pipe to 37° Flared Tube

MS20823-#D (Aluminium)

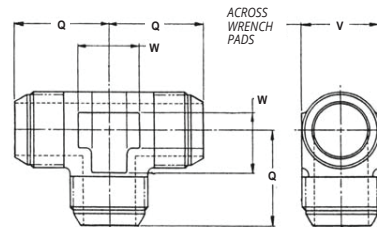
MS20823-# (Steel)

MS20823-#J (Corrosion Resistant)

Dash No. MS20823-	Thread	Tube O.D.	Pipe Thread End		Q +.047 -.000	S	V		
			ANPT	MS33677 STYLE					
2	5/16-24	1/8	1/8	B	.641	.500	.312		
3	3/8-24	3/16		A	.703	.625	.375		
4	7/16-20	1/4					.438		
5	1/2-20	5/16		1/4	A	.750	.500		
6	9/16-18	3/8	3/8				.812	.844	.562
8	3/4-16	1/2					.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	1.469			

## AN824 - TEE

Alternate: AS1035



37° Flared Tube

AN824-#D (Aluminium)

AN824-# (Steel)

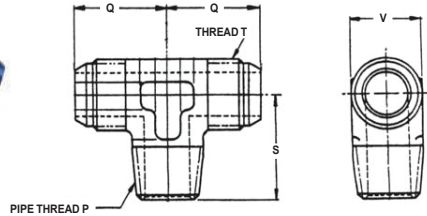
AN824-#J (Corrosion Resistant)

Dash No. AN824-	Tube O.D.	Thread	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



## MS20825 - TEE

Alternate: AN825



Pipe to Tube

Pipe Thread on Side

MS20825-#D (Aluminium)

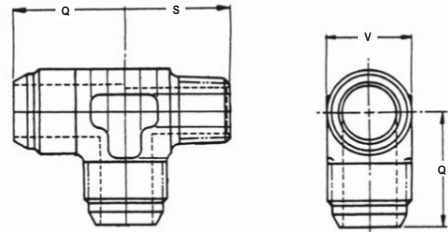
MS20825-# (Steel)

MS20825-#J (Corrosion Resistant)

Dash No. MS20825-	Thread	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			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

Alternate: AN826



Pipe to Tube

Pipe Thread on Run

MS20826-#D (Aluminium)

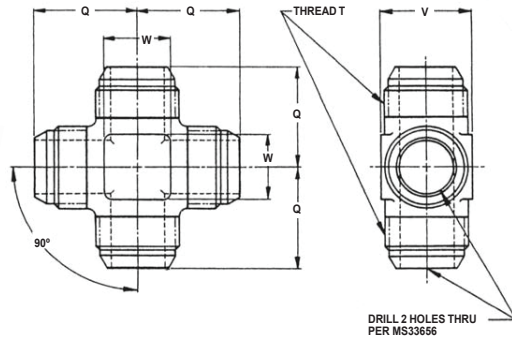
MS20826-# (Steel)

MS20826-#J (Corrosion Resistant)

Dash No. MS20826-	Thread	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			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		

## AN827 - CROSS

Alternate: AS1036



Flared Tube

AN827-#D (Aluminium)

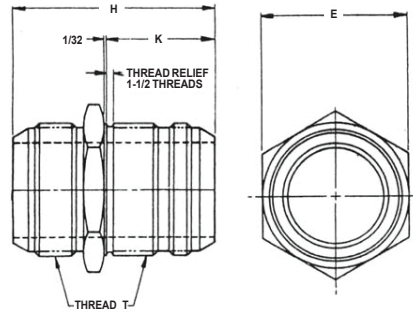
AN827-# (Steel)

AN827-#J (Corrosion Resistant)

Dash No. AN827-	Tube O.D.	Thread	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

Alternate: AS5406



Flared Tube - 3/8 Bulkhead  
& Universal

AN832-#D (Aluminium)

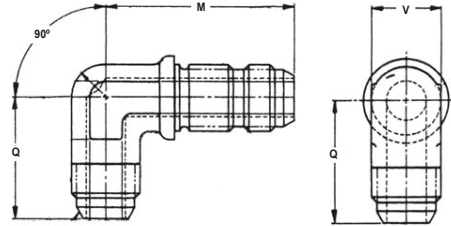
AN832-# (Steel)

AN832-#J (Corrosion Resistant)

Dash No. AN832-	Tube O.D.	Thread	E	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	

## AN833 - ELBOW

Alternate: MS24394, AS1038



Flared Tube and Bulkhead Universal, 90°

AN833-#D (Aluminium)

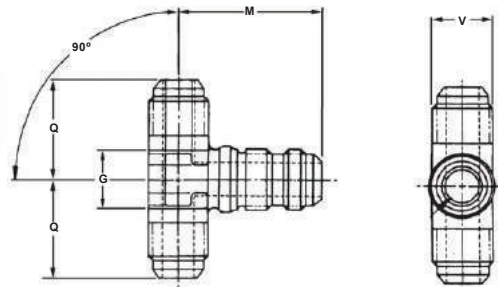
AN833-# (Steel)

AN833-#J (Corrosion Resistant)

Dash No. AN833-	Tube O.D.	Thread	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

Alternate: AS1039



Bulkhead and Universal Flared Tube

AN834-#D (Aluminium)

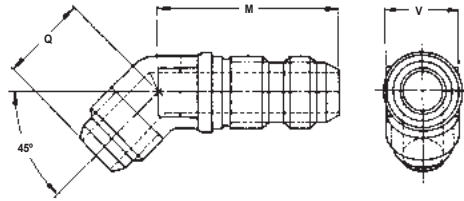
AN834-# (Steel)

AN834-#J (Corrosion Resistant)

Dash No. AN834-	Tube O.D.	G Dia.	Thread	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

## AN837 - ELBOW

Alternate: AS1040



Flared Tube

Universal, 45°

AN837-#D (Aluminium)

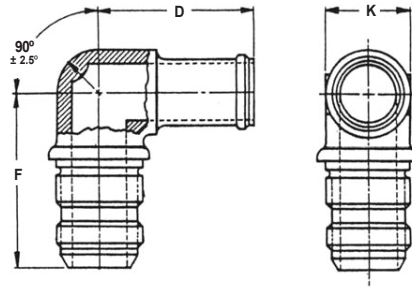
AN837-# (Steel)

AN837-#J (Corrosion Resistant)

Dash No. AN837-	Tube O.D.	Thread	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

Alternate: AS5181



Flared Tube to Hose, 90°

AN838-#D (Aluminium)

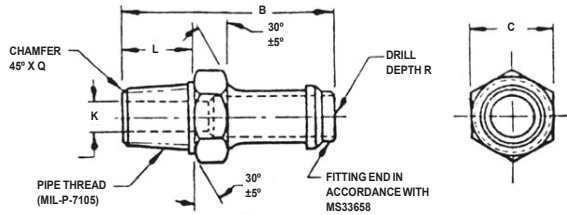
AN838-# (Copper Alloy)

AN838-#J (Corrosion Resistant)

Dash No. AN838-	Hose I.D.	Tube O.D.	Thread	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

## AN840 - ADAPTER

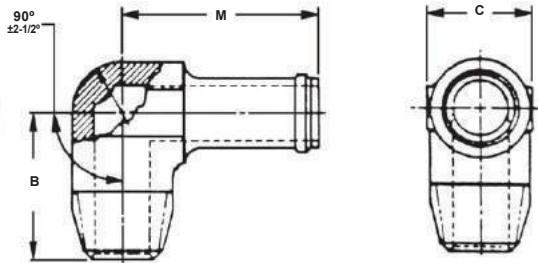
Alternate: AS5183



Straight,  
Pipe to Hose  
AN840-#D (Aluminium)  
AN840-# (Copper Alloy)  
AN840-#S (Steel)

Dash No. AN840-	Hose I.D.	Pipe Thread 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



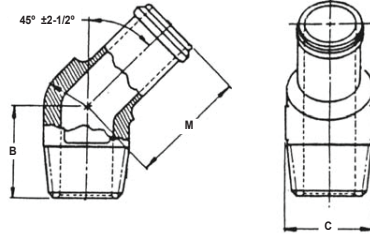
Pipe to Hose, 90°  
AN842-#D (Aluminium)  
AN842-# (Copper Alloy)  
AN842-#S (Steel)

Dash No. AN842-	Hose I.D.	Pipe Thread 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				



## AN844 - ELBOW

Alternate: AS5186

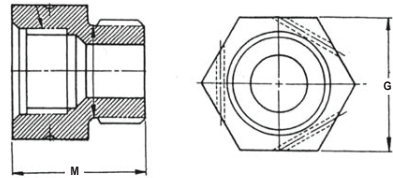


Pipe to Hose, 45°  
 AN844-#D (Aluminium)  
 AN844-# (Copper Alloy)  
 AN844-#S (Steel)

Dash No. AN844-	Hose I.D.	Pipe Thread 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

Alternate: AS5172



Female Straight to Male Straight  
 Screw Thread Reducer  
 AN893-#D (Aluminium)  
 AN893-# (Steel)  
 AN893-#J (Corrosion Resistant)

Dash No. AN893-	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread	Tube O.D.	Thread	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	
4			3/4	1-1/16-12	1.375	31/32
5			1	1-5/16-12	1.625	
6	5/16	.5000-20	1-1/4	1-5/8-12	1.875	1-7/64
7			3/8	9/16-18	.813	
8			1/2	3/4-16	1.000	31/32
9			3/4	1-1/16-12	1.375	
10			1	1-5/16-12	1.625	
11	3/8	.5625-18	1-1/4	1-5/8-12	1.875	1-11/64
12			1/2	3/4-16	1.000	
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



## AN894 - BUSHING

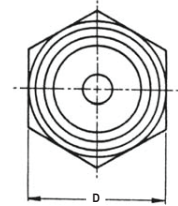
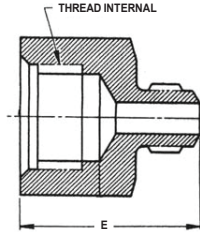
Alternate: MS24398, AS5173

Female Straight to Male 37°  
Screw Thread Expander

AN894D-# (Aluminium)

AN894-# (Steel)

AN894J-# (Corrosion Resistant)



Dash No. AN894	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread	Tube O.D.	Thread	D	E
3-2	3/16	.3750-24	1/8	.3125-24	.625	1-3/16
4-2	1/4	.4375-20			3/16	.375-24
4-3			5/16	.5000-20		
5-4	3/8	.5625-18			5/16	.500-20
6-4			1/2	.7500-16		
6-5	1/4	.4375-20			1/4	.4375-20
8-4			5/16	.500-20		
8-5	3/8	.5625-18			3/8	.5625-18
8-6			1/2	.7500-16		
10-4	5/8	.8750-14			5/16	.500-20
10-5			1/2	.7500-16		
10-6	1/4	.4375-20			1/2	.750-16
10-8						

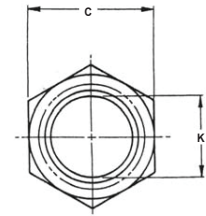
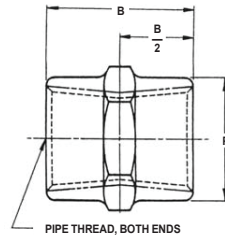
## AN910 - COUPLING

Alternate: AS4859

Female to Female Pipe Thread

AN910-#D (Aluminium)

AN910-# (Copper Alloy)

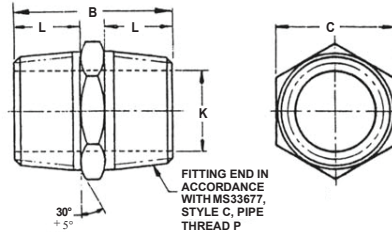


Dash No. AN910-	Pipe Thread	B +1/32 -0	C	K Dia.	P Dia.
1	1/8	27/32	.625	.327	37/64
2	1/4	1-1/8	.813	.423	25/32
3	3/8	1-7/32	.938	.557	59/64
4	1/2	1-19/32	1.188	.688	1-5/32
6	3/4	1-5/8	1.375	.897	1-23/64
8	1	1-15/16	1.750	1.128	1-11/16
10	1-1/4		2.125	1.471	2-3/32



## AN911 - NIPPLE

Alternate: AS4860



Pipe

AN911-#D (Aluminium)

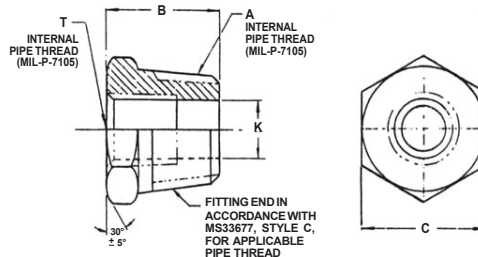
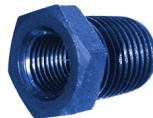
AN911-# (Copper Alloy)

AN911-#J (Corrosion Resistant)

Dash No. AN911-	Pipe Thread ANPT	B ±1/32	C		K Dia.	L	
1	1/8	31/32	.438	+0.003 -0.004	.203	+0.003 -0.004	25/64
2	1/4	1-7/16	.625	+0.004	.279	+0.004	25/64
3	3/8	1-15/32	.750		.418	+0.003 -0.004	
4	1/2	1-27/32	.938		.508	+0.004	
6	3/4	1-29/32	1.125	+0.005	.727	+0.003 -0.004	25/32
8	1	2-5/16	1.375		.914	+0.004	31/32
10	1-1/4	2-11/32	1.750	+0.016	1.256	+0.004	63/64

## AN912 - BUSHING

Alternate: AS4861



Pipe

AN912-#D (Aluminium)

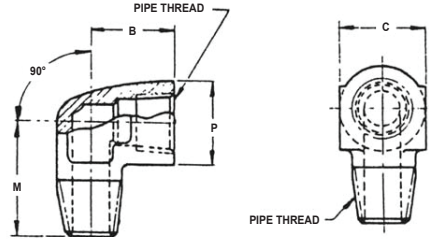
AN912-# (Copper Alloy)

AN912-#J (Corrosion Resistant)

Dash No. AN912-	External Pipe Thread	Internal Pipe Thread	B ±1/32	C		K Dia.	
1	1/4	1/8	25/32	.625	+0.004	.327	+0.000 -0.016
2	3/8	1/4				.423	+0.000 -0.019
3		1/8				.750	.327
4	1/2	3/8	1-1/64	.937	+0.004	.557	+0.000 -0.028
5		1/4				.423	+0.000 -0.019
6		1/8				.327	+0.000 -0.016
7	3/4	1/2	1-1/16	1.125	+0.005	.688	+0.000 -0.034
8		3/8				.557	+0.000 -0.028
9		1/4				.423	+0.000 -0.019
10	1	3/4	1-1/4	1.375	+0.005	.897	+0.000 -0.049
11		1/2				.688	+0.000 -0.034
12		3/8				.557	+0.000 -0.028

## AN914 - ELBOW

Alternate: AS4854



Pipe Internal and External Thread, 90°

AN914-#D (Aluminium)

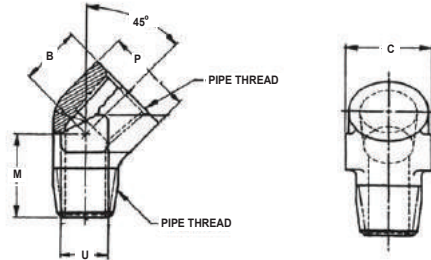
AN914-# (Copper Alloy)

AN914-#J (Corrosion Resistant)

Dash No. AN914-	Int. & Ext. Pipe Thread 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

Alternate: AS4855



Pipe 45°

AN915-#D (Aluminium)

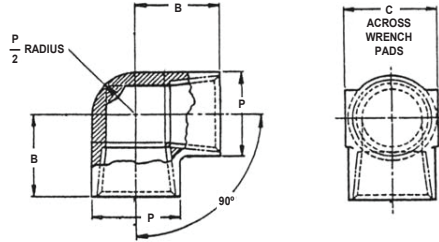
AN915-# (Copper Alloy)

AN915-#J (Corrosion Resistant)

Dash No. AN915-	Int. & Ext. Pipe Thread 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

## AN916 - ELBOW

Alternate: AS4856

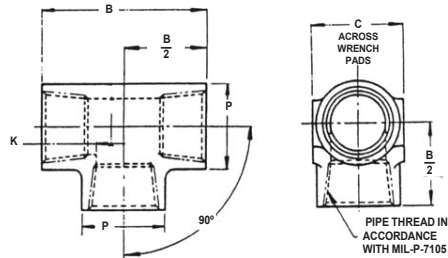


Pipe Internal Thread, 90°  
 AN916-#D (Aluminium)  
 AN916-# (Copper Alloy)  
 AN916-#J (Corrosion Resistant)

Dash No. AN916-	Internal Pipe Thread 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

Alternate: AS4857



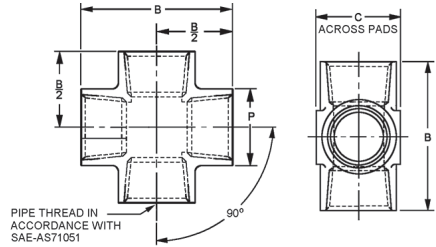
Pipe Internal Thread  
 AN917-#D (Aluminium)  
 AN917-# (Copper Alloy)  
 AN917-#J (Corrosion Resistant)

Dash No. AN917-	Internal Pipe Thread 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



## AN918 - FEMALE CROSS

Alternate: AS4858



Pipe Internal Thread

AN918-#D (Aluminium)

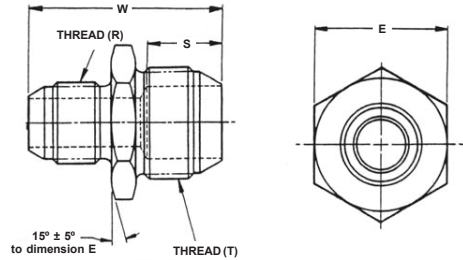
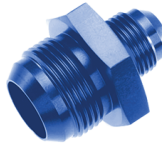
AN918-# (Steel)

AN918-#J (Corrosion Resistant)

Dash No. AN918-	Internal Pipe Thread 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)

Alternate: AS5174



External Thread

Flared Tube, 37° Flare

AN919-#D (Aluminium)

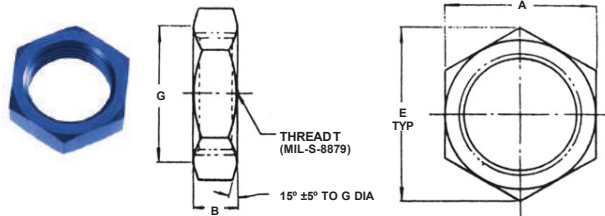
AN919-# (Steel)

AN919-#J (Corrosion Resistant)

Dash No. AN919-	Large End		Small End		E	W	S
	Tube O.D.	Thread (T)	Tube O.D.	Thread (R)			
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			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		1-27/64	
8			1/8	5/16-24		1-29/64	
9	1/2	3/4-16	3/16	3/8-24	1.000	1-17/32	23/32
10			1/4	7/16-20			
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		1-3/4	
15			1/2	3/4-16			
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		1-57/64	
18			3/8	9/16-18		2	
19			1/2	3/4-16		1-27/32	
20			5/8	7/8-14		2-3/64	
21	1	1-5/16-12	1/4	7/16-20	1.625	1-27/32	57/64
22			5/8	7/8-14		2-3/64	
23			3/4	1-1/16-12		2-5/32	

## AN924 - NUT

Alternate: AS5178



Tube, Bulkhead and  
Universal Nut

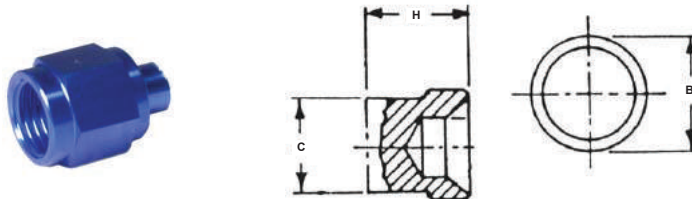
AN924-#D (Aluminium)

AN924-# (Steel)

AN924-#J (Corrosion Resistant)

Dash No. AN924-	Tube O.D.	Thread	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			±.020	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

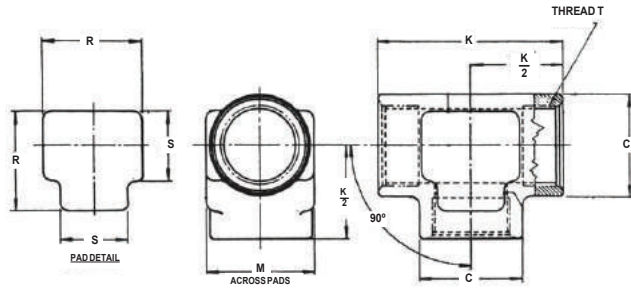
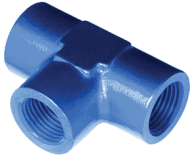
AN929-# (Aluminium)

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	

## AN938 - TEE

Alternate: AS5192



Tube, Internal Thread

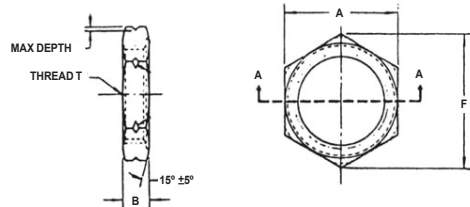
AN938D# (Aluminium)

AN938-# (Steel)

Dash No. AN938	Tube O.D.	Thread	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	1-1/16	11/16
8	1/2	3/4-16	1-1/16	1-1/16	2		
10	5/8	7/8-14	1-3/16	1-3/16	2-5/16	1-3/16	3/4

## AN6289 - NUT

Alternate: AS5179



Tube nut with groove  
for O-Ring

AN6289D# or AS5179D## (Aluminium)

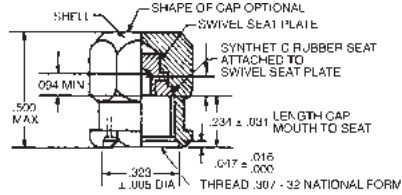
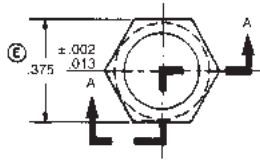
AN6289-# or AS5179-## (Steel)

AN6289J# or AS5179J## (Corrosion Resistant)

Dash No. AN6289	Tube O.D.	Thread	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

## MS20813-1 - CAP

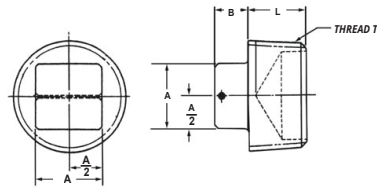
Pneumatic Valve Cap, High Pressure



## MS20913 - PLUG

Alternate: AS4863

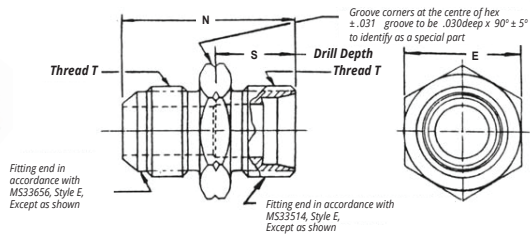
Square Head  
Safety Wire Hole  
MS20913-#D (Aluminium)  
MS20913-# (Copper)  
MS20913-#S (Steel)



Dash No. MS20913-	Thread 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	.625
4	1/2-14	.563	.375	.641
6	3/4-14	.625	.438	.797
8	1-11-1/2	.813	.500	

## MS21900 - ADAPTER

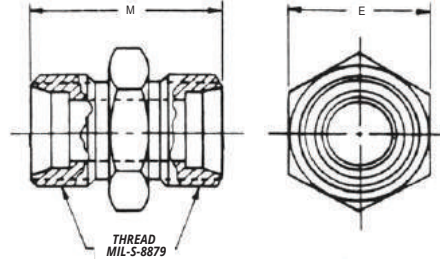
Adapter, Flareless  
Tube to a Flared Tube  
MS21900D# (Aluminium 2024)  
MS21900-# (Steel)  
MS21900J# (Corrosion Resistant)  
MS21900W# (Aluminium 7075)  
MS21900V#P (CRES Steel, Cad Plated)



Dash No. MS21900	Tube O.D.	Thread	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	.688
8	1/2	.7500-16	1.000	1.469	.781
10	5/8	.8750-14	1.125	1.688	.875
12	3/4	1.0625-12	1.375	1.938	

## MS21902 - UNION

Alternate: AS5230



Flareless Tube

MS21902D# (Aluminium2024)

MS21902-# (Steel)

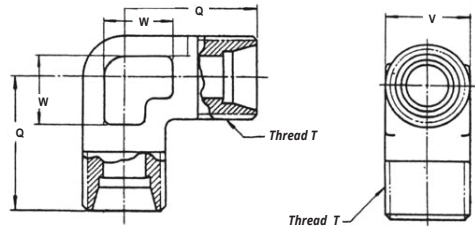
MS21902J# (CRES Steel 304)

MS21902W# (Aluminium 7075)

MS21902V#P (CRES Steel, Cad Plated)

Dash No. MS21902	Tube O.D.	Thread 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# (Aluminium2024)

MS21904-# (Steel)

MS21904J# (CRES Steel 304)

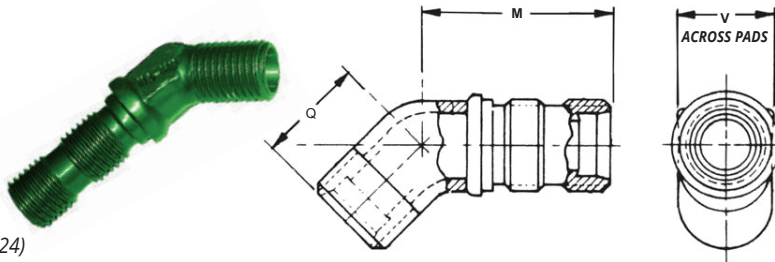
MS21904W# (Aluminium 7075)

MS21904V#P (CRES Steel, Cad Plated)

Dash No. MS21904	Tube O.D.	Thread 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



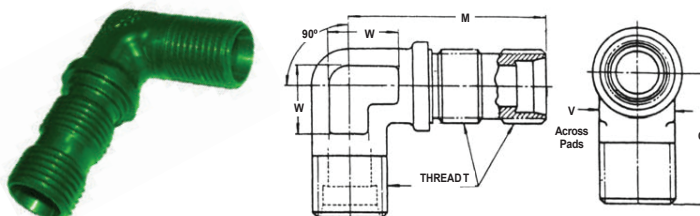
## MS21907 - ELBOW



Bulkhead Universal  
 45° Flareless Tube  
 MS21907D# (Aluminium 2024)  
 MS21907-# (Steel)  
 MS21907J# (Corrosion Resistant)  
 MS21907W# (Aluminium 7075)  
 MS21907V#P (CRES Steel, Cad Plated)

Dash No. MS21907	Tube O.D.	Thread 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

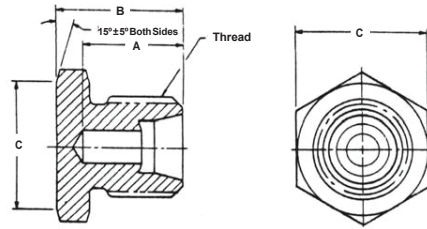
## MS21908 - ELBOW



Bulkhead Universal  
 90° Flareless Tube  
 MS21908D# (Aluminium 2024)  
 MS21908-# (Steel)  
 MS21908J# (CRES Steel 304)  
 MS21908W# (Aluminium 7075)  
 MS21908V#P (CRES Steel, Cad Plated)

Dash No. MS21908	Tube O.D.	Thread 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

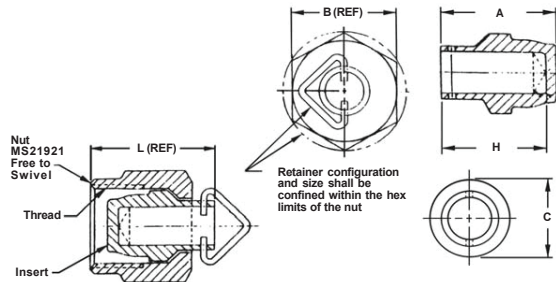
## MS21913 - PLUG



Hex Head, Flareless Tube  
 MS21913D# (Aluminium 2024)  
 MS21913# (Steel)  
 MS21913J# (CRES Steel 304)  
 MS21913W# (Aluminium 7075)  
 MS21913V#P (CRES Steel, Cad Plated)

Dash No. MS21913	Tube O.D.	Thread MIL-S-8879	A + $\frac{3}{64}$ -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		1/2	41/64
5	5/16	.5000-20	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

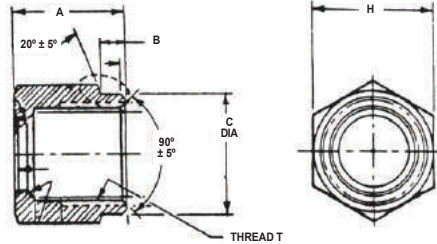
## MS21914 - CAP



Pressure Seal,  
 Flareless Tube Fitting  
 MS21914#D (Aluminium 2024)  
 MS21914# (Steel)  
 MS21914#J (CRES Steel 304)  
 MS21914#W (Aluminium 7075)  
 MS21914V#P (CRES Steel, Cad Plated)

Dash No. MS21914	Tube O.D.	Thread 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

## MS21921 - NUT



Sleeve Coupling, Flareless

MS21921-#D (Aluminium 2024)

MS21921-# (Steel)

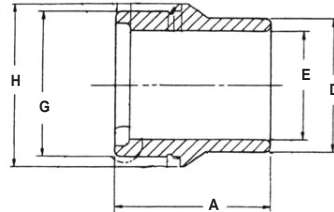
MS21921-#J (CRES Steel 304)

MS21921-#W (Aluminium 7075)

MS21921V#P (CRES Steel, Cad Plated)

Dash No. MS21921	Tube O.D.	Thread 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

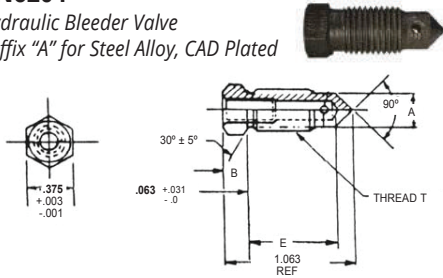
MS21922-# (Steel)

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

## AN6204

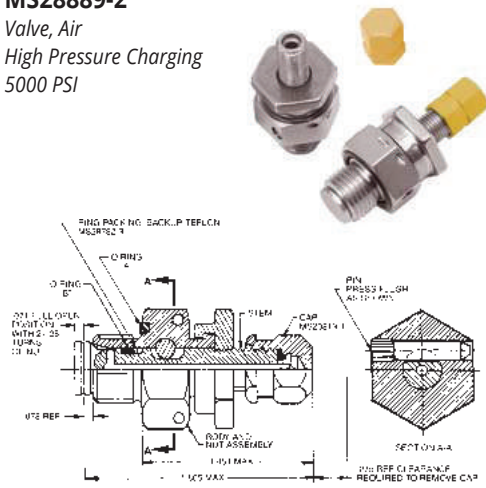
Hydraulic Bleeder Valve  
Suffix "A" for Steel Alloy, CAD Plated



Dash No. AN6204	Thread	A +.01	B	E
-1	.375-24	.278	.188	.734
-2	.250-28	.190 <sup>+0.000</sup> <sub>-.005</sub>	.43	.531

## MS2889-2

Valve, Air  
High Pressure Charging  
5000 PSI



## MS20271

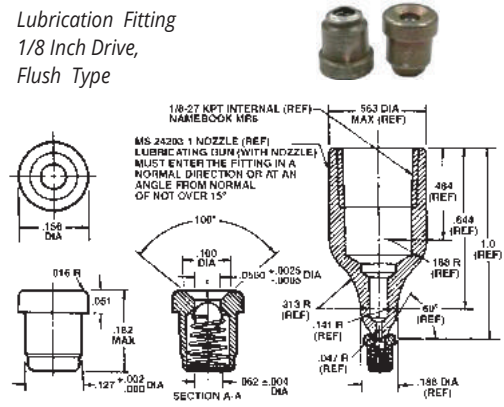
Universal Joint

Part #	Nominal Size	Length
MS20271B6	.375	2.00
MS20271B8	.500	2.312
MS20271B10	.625	2.750
MS20271B12	.750	3.187



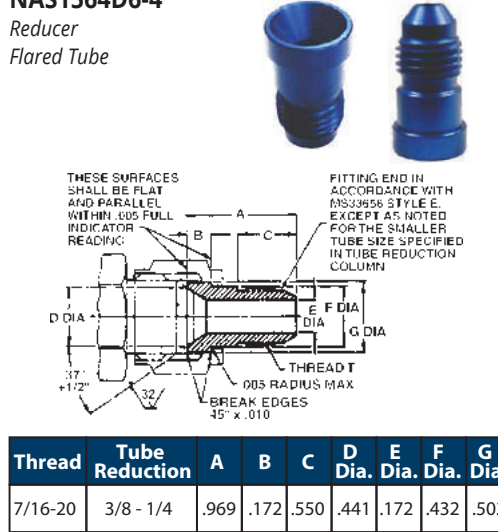
## NAS516-1A

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 2.5" Dia.  
Non-Flush Type



## CAPPLUGS CD SERIES



Threaded Plastic Caps  
for Flared Fittings

Part #	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



Aluminium Caps for  
Threaded Flared Fittings

Part #	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

Part #	To Fit Thread
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

Part #	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

Part #	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 Aluminium Plugs  
for 37° Flared Fittings

Part #	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

Part #	To Fit Thread
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

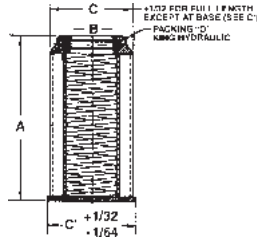


Threaded Aluminium Plugs  
for Flareless Tube and  
Hose Assemblies

Part #	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

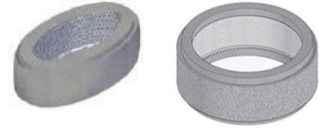
## 1J7-1

Airbourne Filter  
For Vacuum Systems



Filter replacement element Part # D9-18-1

## BRACKETT AIR FILTERS



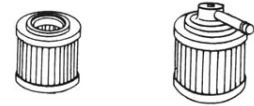
TYPE II - Foam element  
on outside of steel  
screen cylinder or oval



Part #	
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

AP50 & AS4824 Conical seals have the same fit, form and function.



Fitting Size	AP50		AS4824	
	Nickel	Copper	Nickel	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

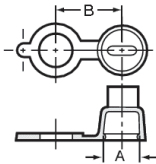
## GREASE FITTINGS

AS15001P, AS15002P  
AS15003P, AS15006P



<p><b>AS15001-1P</b></p>	<p><b>AS15001-2P</b></p>	<p><b>AS15001-3P</b></p>	<p><b>AS15001-4P</b></p>
<p><b>AS15002-1P</b></p>	<p><b>AS15002-3P</b></p>	<p><b>AS15003-1P</b></p>	<p><b>AS15006-1P</b></p>

## GC-5 - CAPLUG



Grease cap with retaining collar.  
Securely snaps over fittings to  
seal out dirt and moisture

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

## AAE-HELI-R#

'Redge'

P/N: AAE-HELI-RS1 (Solar / Electric)

P/N: AAE-HELI-R1 (Electric)

Hybrid power - solar / electric  
Eco friendly plywood construction  
Flat-packed and ready to build,  
no glue necessary & battery is included!

Refer to website for current version



Length	Width	Height	Rotor Dia.	Power	Fun Factor
8.0	3.5	3.5	7.0	AAA Batt. / Sun	10 / 10

## AEROQUIP® 306 LOW PRESSURE HOSE & FITTINGS



### 306 HOSE CONSTRUCTION (MIL-H-5593):

Inner tube is made of a seamless synthetic rubber compound reinforced by a single cotton braid. Outer cover is also synthetic rubber compound.

### APPLICATION:

Air or vacuum instrument systems, automatic pilots & lines to pressure gauges used with these systems (specified in MS33620).

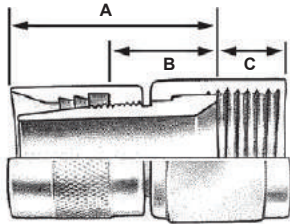
### OPERATING TEMP:

-65°F to +160°F

### 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.

### 471, MS27404 STRAIGHT HOSE FITTING



Hose				Straight Hose Fitting				
Part #	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part #	Max A	Max B	Max C	Thread
306-2	.125	.344	300	471-2D	.88	.40	.34	5/16-24
306-3	.188	.406	250	471-3D	1.00	.44	.32	3/8-24
306-4	.250	.469	200	471-4D	1.04	.47	.35	7/16-20
306-6	.375	.594	150	471-6D	1.15	.54	.38	9/16-18
306-8	.500	.750	150	471-8D	1.37	.67	.43	3/4-16
306-10	.625	.875	150	471-10D	1.57	.72	.51	7/8-14



## AEROQUIP® 303 MEDIUM PRESSURE HOSE & FITTINGS



### 303 HOSE CONSTRUCTION (MIL-H-8794):

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.

### APPLICATION:

Medium pressure hydraulic, pneumatic, fuel, oil and coolant systems (specified in MS33620).

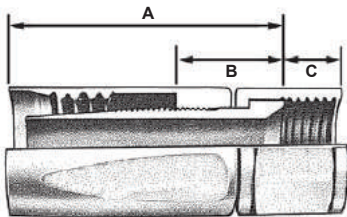
### OPERATING TEMP:

-65°F to +250°F

### 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.

### 491, 451, MS24587 STRAIGHT HOSE FITTING



Angled fittings also available.  
Base Part #: 980005, 980006, 980136, 980137



Hose				Straight Hose Fitting				
Part #	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part #	Max A	Max B	Max C	Thread
303-3	.125	.453	3,000	491-3	1.43	.65	.32	5/16-24
303-4	.188	.516	3,000	491-4	1.51	.65	.35	3/8-24
303-5	.250	.578	3,000	491-5	1.64	.74	.38	7/16-20
303-6	.313	.672	2,000	491-6	1.79	.77	.38	9/16-18
303-8	.406	.766	2,000	491-8D	2.22	.94	.43	3/4-16
303-10	.500	.922	1,750	491-10D	2.42	1.0	.51	7/8-14
303-12	.625	1.078	1,500	491-12D	2.70	1.0	.57	1-1/16-12



## AEROQUIP® FIRE SLEEVE

### AE102 - FIRESLEEVE

Specially developed to meet the fire resistance requirements of FAATSO-C53 or TSO-C75. Uniform layer of fibreglass tubing impregnated and overlaid with a flame resistant silicone rubber. 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.



### APPLICATION:

Can be used for all fuel, oil, hydraulic, fire extinguisher and propeller feathering lines. Use 900591B Clamps to secure firesleeve material.

### OPERATING TEMP:

-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.



Aeroquip Part #	Inside Dia.	Use with Clamp*	Use w/ Hose 303*	Use w/ Hose 601*	Use w/ Hose AE246*	Use w/ Hose MIL-H-6000*	Use w/ Hose 666*	Weight lbs. per ft
AE102-6	3/8	900591B-1C	---	---	---	---	-4	.096
AE102-7	7/16	900591B-1C	---	-3	---	---	---	.104
AE102-8	1/2	900591B-1C	-3	-4	-4	---	-5	.112
AE102-9	9/16	900591B-2C	-4	-5	---	1/4	-6	.122
AE102-10	5/8	900591B-2C	-5	-6	---	---	-8	.142
AE102-11	11/16	900591B-2C	---	---	-6	3/8	---	.158
AE102-12	3/4	900591B-2C	-6	-8	---	1/2	-10	.166
AE102-13	13/16	900591B-2C	---	---	-8	---	---	.175
AE102-14	7/8	900591B-2C	-8	---	-10	5/8	-12	.187
AE102-16	1	900591B-3C	-10	-10	-12	3/4	---	.195
AE102-18	1-1/8	900591B-3C	-12	-12	---	---	---	.226
AE102-20	1-1/4	900591B-3C	---	---	---	---	---	.248

\*Clamp and hose part numbers are suggestions only and suitability may vary depending on application.

## 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 Part #	SCEET Part #
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

## AEROQUIP® 601 / AE701 HOSE & FITTINGS



### 601 / AE701 HOSE CONSTRUCTION (MIL-H-83797):

Inner tube is made from seamless elastomeric chlorinated polyethylene (CPE). The synthetic rubber inner tube has two layers of stainless steel wire braid reinforcement.

#### APPLICATION:

Fuel, engine oil, coolants. The hose retains its flexibility over a long period and has unlimited shelf life. Not intended for vacuum applications.

#### OPERATING TEMP:

-65°F to +300°F

#### IDENTIFICATION:



Basic Hose  
P/N: 601 / AE701

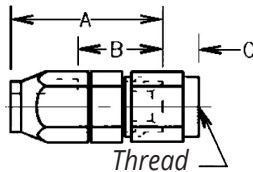


+ Braided Chafeguard  
P/N: AE501



+ Integral Fire Sleeve  
P/N: AE401

### 816, M83798/1 STRAIGHT HOSE FITTING



Angled fittings also available.  
Part #: 8846-##, 8891-##

Hose				Straight Hose Fitting				
Part #	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part #	Max A	Max B	Max C	Thread
601-3	.141	.398	1500	816-3	1.30	.64	.34	3/8-24
601-4	.204	.462	1500	816-4	1.33	.65	.37	7/16-20
601-6	.329	.571	1500	816-6D	1.51	.76	.38	9/16-18
601-8	.415	.673	1250	816-8D	1.79	.94	.43	3/4-16
601-10	.539	.820	1250	816-10D	1.94	.99	.50	7/8-14
601-12	.665	.961	1250	816-12D	2.01	1.00	.57	1-1/16-12

## 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 #	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

### Australian Aerospace Hose Shop

AAE is an Eaton Authorized Distributor and is working to establish a TSO approved aerospace hose shop in Australia, supplying the Aeroquip® product line of hose products and assemblies.

This sovereign capability will directly support Australian Defence and commercial industry across a broad range of aerospace platforms.

[www.austerospace.com.au](http://www.austerospace.com.au) [hoses@austerospace.com](mailto:hoses@austerospace.com)



Powering Business Worldwide



AUTHORIZED  
Distributor

### Hose Shop Capability Overview

High Pressure PTFE (Teflon™) Hose (AE246) - 3000 PSI

Medium Pressure PTFE (Teflon™) Hose (666, 667, AE240) - 1500 PSI

Medium Pressure Rubber Hose (303, 302A) - 350 PSI to 3000 PSI

Low Pressure Rubber Hose (306) - 150 PSI to 300 PSI

Synthetic Rubber Hose (601 / AE701) wire reinforced - 200 PSI to 1000 PSI

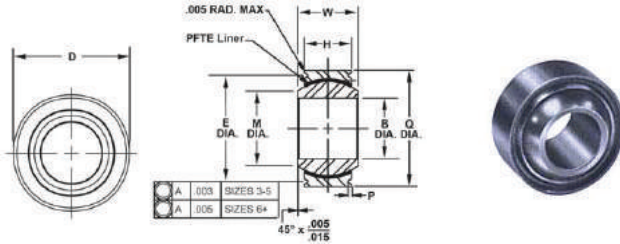
Protective Sleeving

**FAA 8130 Release Certificates available for our hose assemblies**



## MS14101

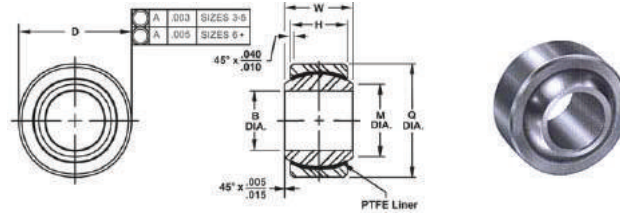
Bearing, Self-Lubricating,  
Self-Aligning, Narrow,  
Grooved, Outer Ring



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)		Oscillating Load (lbs)	No-Load Rotational Breakaway Torque		WT. Lb. Max (Ref)
									Radial	Axial		Standard	"K" Type	
-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			
-5A	.3125	.7500	.281	.419	.035	9	.375	.660	8750	700	5460	0.25 - 8.0	0 - 1.0	.030
-6	.3750	.8125	.312	.475			.406	.702	10540	1100	6600			

## MS14102

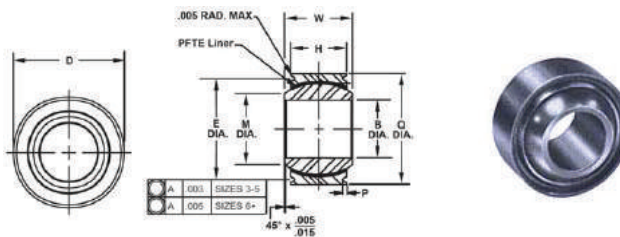
Bearing, Self-Lubricating,  
Self-Aligning, Narrow,  
Chamfered, Outer Ring



MS14102	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	Q MIN	W +.000 -.002	E +.000 -.010	Static Limit Load (lbs)		Oscillating Load (lbs)	No-Load Rotational Breakaway Torque		WT. Lb. Max (Ref)
								Radial	Axial		Standard	"K" Type	
-4	.2500	.6250	.327	.300	15	.437	.500	5500	1770	4900	0.25 - 8.0	0 - 1.0	.031
-5	.3125	.6875	.317	.360	14	.437	.500	9400	1640	6050			
-6	.3750	.8125	.406	.46	8	.500	.500	13700	2630	8310	.060		

## MS14103

Bearing, Self-Lubricating,  
Self-Aligning, Wide,  
Grooved Outer Ring

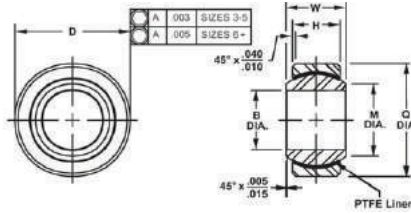


MS14103	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	P +.000 -.015	Q MIN	W +.000 -.002	E +.000 -.010	Static Limit Load (lbs)		Oscillating Load (lbs)	No-Load Rotational Breakaway Torque		WT. Lb. Max (Ref)
									Radial	Axial		Standard	"K" Type	
-4	.2500	.6250	.327	.300	.025	15	.437	.563	5500	1770	4900	0.25 - 5.0	0 - 0.5	.031
-5	.3125	.6875	.317	.360					.625	9400	1640			
-6	.3750	.8125	.406	.466	.035	8	.500	.712	13700	2630	8310	0.25 - 8.0	0 - 1.0	.060
-10	.6250	1.1875	.567	.747					.750	1.087	29000			



## MS14104

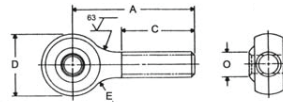
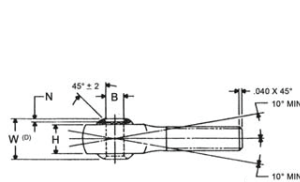
Bearing, Self-Lubricating,  
Self-Aligning, Narrow,  
Chamfered Outer Ring



MS14104	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	Q MIN	W +.000 -.002	Static Limit Load (lbs)		Oscillating Load (lbs)	No-Load Rotational Breakaway Torque		WT. Lb. Max (Ref)
							Radial	Axial		Standard	"K" Type	
-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

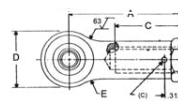
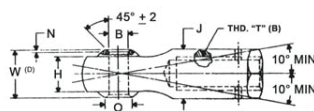
Bearing, Double Row  
Rod End External Thread  
Self-Aligning, Anti Friction  
"C" After Dash #  
Indicates Key Slot



MS21151	Bore Size Nom.	A ±.031	B +.0000 -.0003	C ±.031	D ±.010	E Nom. Radius	H ±.010	N +.015 -.000	O Min. Dia.	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

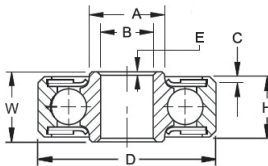


MS21153	Bore Size Nom.	A ±.031	B +.0000 -.0003	C ±.031	D ±.010	E Nom. Radius	H ±.010	J Dia. ±.010	K Bead or Hex Dia.	N +.015 -.000	O Min. Dia.	Thread UNJF-31	W +.000 -.005
-1	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead.438	.005	.276	.2500-28RH	.437
-3	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead.438	.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



## MS27640

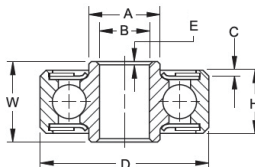
Airframe Bearing  
Antifriction, Heavy Duty



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			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

## MS27641

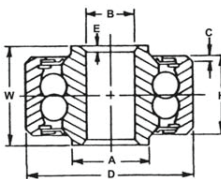
Airframe Bearing  
Antifriction Intermediate Duty



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 (a)	
											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

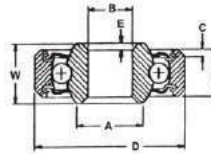
Airframe Bearing  
Antifriction, Self-Aligning  
Light and Heavy Duty



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 (a)		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

## MS27645

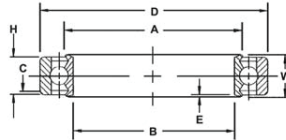
Airframe Bearing  
Antifriction, Self-Aligning  
Light and Heavy Duty



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 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

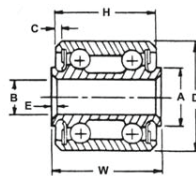
Airframe Bearing  
Antifriction, Extra Light Duty



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) +.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

Airframe Bearing  
Antifriction, Self-Aligning  
Light and Heavy Duty



Without lubrication groove      With lubrication groove



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 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

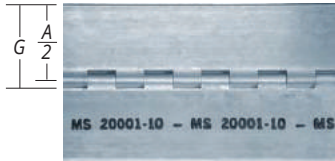






## MS20001

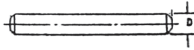
Hinge,  
Structural  
Extruded  
6 Ft. Length



MS20001	A WIDTH	THICKNESS		G	
		MAX	MIN	MAX	MIN
-2-7200	1.062	.056	.044	.630	.612
-3-7200	1.250			.724	.706
-4-7200	1.500			.850	.830
-5-7200	1.750			.975	.955
-6-7200	2.000			1.102	1.078

## MS20253

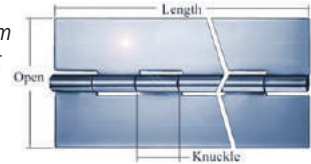
Hinge Pin, 6 ft.  
Passivated



Diameter	MS20253-
.062	1-7200
.089	2-7200
.117	3-7200
.179	4-7200
.129	5-7200

## MS20257

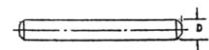
Hinge, Continuous  
(P) Anodised Aluminium  
(C) Corrosion Resistant  
6 Ft. Length



MS20257			A WIDTH (OPEN)	THICKNESS	
ALUMINIUM	CRES			AL ALLOY	CRES
-1-7200	P1-7200	C1-7200	.750	.032	.031
-2-7200	P2-7200	C2-7200	1.062	.040	.037
-3-7200	P3-7200	C3-7200	1.250		.050
-4-7200	P4-7200	C4-7200	1.500		.062
-5-7200	P5-7200	C5-7200	2.000	.051	
-6-7200	P6-7200	C6-7200	2.000	.064	

## MS20253P

Hinge Pin, 6 ft.  
Cad Plated



Diameter	MS20253
.062	P1-7200
.089	P2-7200
.117	P3-7200
.179	P4-7200
.129	P5-7200

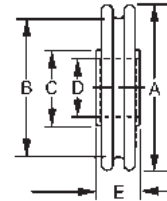
NOTE: Hinge shipments are considered oversize shipments that incur additional freight charges.

## AIRCRAFT PULLEYS

MS20219 - Secondary Control Pulley

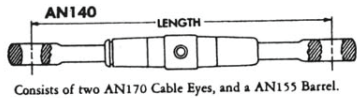
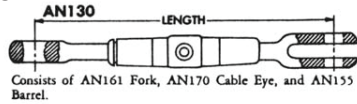
MS20220 - Flight Control Pulley

MS24566 - Anti-friction Bearing, Control Pulley (AN210)



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

## COMPLETE TURNBUCKLE ASSEMBLIES



### MS21260

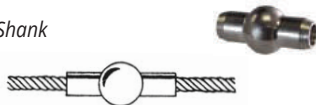
(AN669)  
Stud Terminal,  
Long Wire Rope



MS21260		Length	Thread	Cable Dia.
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.	Min. Breaking Strength (Lbs.)	Hole Size
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.	Pin Hole Dia.
-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	2.250	.250
-B2L	-8L		4	
-B3S	-16S	10-32	2.250	.344
-B3L	-16L		4	
-B5S	-32S	1/4-28	2.250	.438
-B5L	-32L		4	
-B6S	-46S	5/16-24	2.250	.500
-B6L	-46L		4	

### MS21260

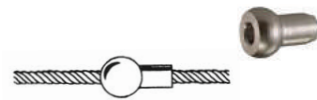
(AN669)  
Turnbuckle End Short



MS21260		Length	Thread	Cable Dia.
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.	Min. Breaking Strength (Lbs.)	Hole Size
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.	Pin Hole Dia.
-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

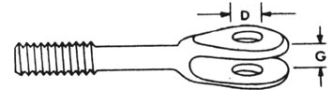
## MS21252

(AN161)

Turnbuckle Fork

1st letter following dash # indicates right or left.

Last letter indicates short (S) or long (L).



MS21252	AN161	Thread	Length	Cable Dia.	G	D
-2RS -2LS	-8RS -8LS	6 - 40	1.500 1.500	1/16	.109	.190
-3RS -3LS	-16RS -16LS	10 - 32	1.625 1.625	3/32	.156	.190
-4RS -4LS	-22RS -22LS	1/4 - 28	1.844 1.844	1/8	.195	.190
-5RS -5LS	-32RS -32LS	1/4 - 28	1.844 1.844	1/8 or 5/32	.218	.250

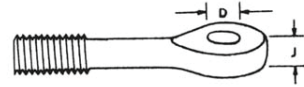
## MS21254

(AN165)

Pin Eye

1st letter following dash # indicates right or left.

Last letter indicates short (S) or long (L).



MS21254	AN165	Thread	Length	Cable Dia.	J	D
-2RS -2LS	-8RS -8LS	6 - 40	1.500 1.500	1/16	.125	.190
-3RS -3LS	-16RS -16LS	10 - 32	1.625 1.625	3/32	.188	.190
-5RS -5LS	-32RS -32LS	1/4 - 28	1.750 1.750	5/32	.219	.250

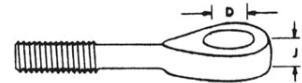
## MS21255

(AN170)

Cable Eye

1st letter following dash # indicates right or left.

Last letter indicates short (S) or long (L).



MS21255	AN170	Thread Size	Length	Cable Dia.	J	D
-2RS -2LS	-8RS -8LS	6 - 40	1.500 1.500	1/16	.125	.188
-3RS -3LS	-16RS -16LS	10 - 32	1.625 1.625	3/32	.188	.219
-5RS -5LS	-32RS -32LS	1/4 - 28	1.750 1.750	5/32	.219	.281

## MS21259

Stud End

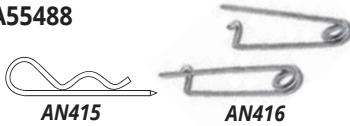


MS21259 RH Thread	MS21259 LH Thread	Length	Thread Size	Cable Dia.
-2RH	-2LH	2.65	6 - 40	1/16
-3RH	-3LH	3.00	10 - 32	3/32
-4RH	-4LH	3.59	1/4 - 28	1/8
-5RH	-5LH	3.79	1/4 - 28	5/32
-6RH	-6LH	4.002	5/16 - 24	3/16

## AA55487 / AA55488

(AN415 / AN416)

Locking Pins



Part #	Alt. Part #	Wire Dia.	Length
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
AA55488-3	AN416-3	.080	2.15

## AN100

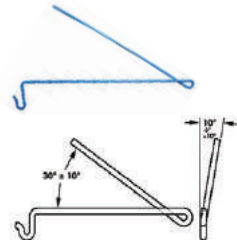
Cable Thimble



To Fit Cable Dia.	Steel	Stainless
	Part #	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

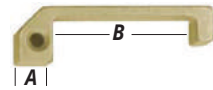
Locking Clip  
Stainless Steel



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 & 1/2	.049	.344

## NICOPRESS® SLEEVE

MS51844

18- Unplated Copper

28 - Plated Copper



To Fit Cable Dia.	Unplated		Plated	
	MS51844	Alt. Part #	MS51844	Alt. Part #
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



Close-up view of 7x7 cable



Close-up view of 7x19 cable

7 X 7 Cable	Part # Stainless	Part # Gal.	S/S Max. Load (Lbs.)
1/16 DIA.	7X7 1/16 S/S	7X7 1/16 GAL	480
3/32 DIA.	7X7 3/32 S/S	7X7 3/32 GAL	920
7 X 19 Cable	Part # Stainless	Part # Gal.	S/S Max. Load (Lbs.)
1/16 DIA.	7X19 1/16 S/S	7X19 1/16 GAL	480
3/32 DIA.	7X19 3/32 S/S	7X19 3/32 GAL	920
1/8 DIA.	7X19 1/8 S/S	7X19 1/8 GAL	1700
5/32 DIA.	7X19 5/32 S/S	7X19 5/32 GAL	2400



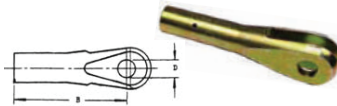


## MS27975 Clevis Rod End



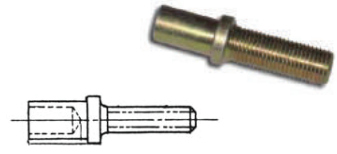
MS27975	Type Fork	Hole Dia.	Ultimate Axial Load
-1	WIDE	.250	3800 lbs.
-2	NARROW	.250	2850 lbs.
-3	WIDE	.188	4700 lbs.
-4	NARROW	.188	3500 lbs.

## AN665 Clevis Type Tie Rod



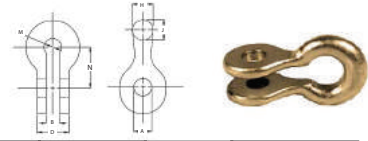
AN665	Thread Size	D Dia.	B Length
-21R	10 - 32	.190	1.537
-34R	1/4 - 28	.250	1.813
-46R	5/16 - 24	.313	1.875

## AN490HT Rod End Threaded



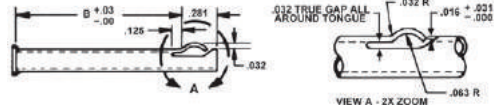
Part #	Thread	Diameter	Tube Size
AN490HT6P	1/4-28	.375	3/8
AN490HT8P		.500	1/2

## AN115 Shackle



AN115	A Dia.	M Dia.	Strength (Lbs.)
-8	.188	1/4	800
-16	.188	1/4	1600
-21	.188	1/4	2100
-32	.250	3/8	3200

## 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



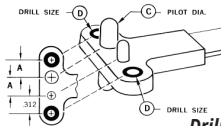
Wire Dia.	Corrosion Resistant (C)	Copper (CU)	Nickel-Copper Alloy (N)
	MS20995	MS20995	MS20995
.020	C20	CU20	N20
.021	C21	CU21	N21
.025	C25	CU25	N25
.032	C32	CU32	N32
.040	C40	CU40	N40
.041	C41	CU41	N41

## NAS1756-24 Warning Streamer



## NUT PLATE / ANCHOR NUT DRILL JIGS

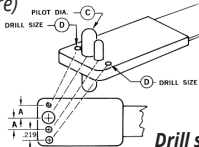
### ONE LUG NUT PLATE



Drill size #40

Part #	Pilot Dia.	A	Bolt Ref.
AIT518G	.139	.344	#6
AIT518H	.164	.344	#8
AIT518J	.191	.344	#10
AIT518K	.248	.344	1/4"

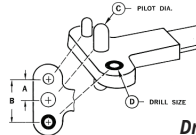
### ONE LUG NUT PLATE (Miniature)



Drill size #40

Part #	Pilot Dia.	A	Bolt Ref.
AIT518-PA	.122	.203	#4
AIT518-PB	.139	.218	#6
AIT518-PC	.164	.234	#8
AIT518-PD	.191	.250	#10
AIT518-PE	.248	.281	1/4"

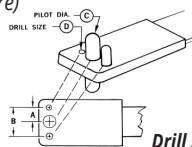
### TWO LUG NUT PLATE



Drill size #40

Part #	Pilot Dia.	A	B
AIT518A	.139	.344	.688
AIT518B	.164	.344	.688
AIT518C	.191	.344	.688
AIT518D	.248	.500	1.000

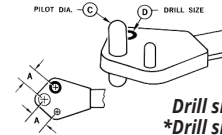
### TWO LUG NUT PLATE (Miniature)



Drill size #40

Part #	Pilot Dia.	A	B
AIT518-NA	.112	.203	.406
AIT518-NB	.139	.218	.436
AIT518-NC	.164	.234	.468
AIT518-ND	.191	.250	.500
AIT518-NE	.248	.281	.562

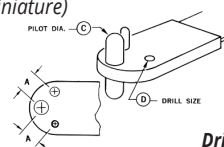
### CORNER NUT PLATE



Drill size #40  
\*Drill size #30

Part #	Bolt 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)



Drill size #40

Part #	Pilot Dia.	A	Bolt Ref.
AIT518-SA	.112	.203	#4
AIT518-SB	.139	.218	#6
AIT518-SC	.164	.234	#8
AIT518-SD	.191	.250	#10

## STRAP DUPLICATORS - LENGTH 6 - 1/4"

### BUSHING TYPE



Part #	Size
TPMM250-1	#40
TPMM250-2	#30
TPMM250-3	#21
TPMM250-5	#10
TPMM250-7	#F

### INVERTED TYPE



Part #	Size
TPMM255-1	#40
TPMM255-2	#30
TPMM255-3	#21
TPMM255-5	#10
TPMM255-7	#F

### PUNCH TYPE



Part #	Size
TPMM260-1	#40
TPMM260-2	#30
TPMM260-3	#21
TPMM260-5	#10

## 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"



## AIRCRAFT DRILL BITS

Per NAS907 Specifications  
135° Split Point



Per NAS965 Type 'D'  
135° Split Point



COBALT				HIGH SPEED STEEL	
Jobber Length		Extension Bits 6" Overall Length		Jobber Length	
Size	Part #	Size	Part #	Size	Part #
#10	01-010	#10	05-209	#10	01-010HSS
#16	01-016	#16	05-215	#16	01-016HSS
#20	01-020	#20	05-219	#20	01-020HSS
#21	01-021	#21	05-220	#21	01-021HSS
#27	01-027	#27	05-226	#27	01-027HSS
#30	01-030	#30	05-229	#30	01-030HSS
#40	01-040	#40	05-239	#40	01-040HSS
3/32	02-063	3/32	04-102	3/32	02-063HSS
1/8	02-065	1/8	04-104	1/8	02-065HSS
5/32	02-067	5/32	04-106	5/32	02-067HSS
3/16	02-069	3/16	04-108	3/16	02-069HSS
1/4	02-073	1/4	04-112	1/4	02-073HSS

THREADED DRILLS - HIGH SPEED STEEL			
Size	Stubb	Short	Long
#40	10-340	10-040	10-240
#30	10-330	10-030	10-230
#21	10-321	10-021	10-221
#27	10-327	10-027	10-227
#16	10-316	10-016	10-216
#10	10-310	10-010	10-210
3/32	11-303	11-103	11-203
1/8	11-305	11-105	11-205
5/32	11-307	11-107	11-207
3/16	11-309	11-109	11-209
1/4	11-313	11-113	11-213

Drill bit manufacturer's part number may vary

## INSERT BITS - PHILLIPS / TORQ-SET

440-#



1/4" Hex Insert

446-#



1/4" Hex Insert,  
Limited Clearance

TORQ-SET



1/4" Hex Shank, Overall Length 1"



1/4" Power Bit

Suffix Part # with ACR for serrated tip insert bits (Anti-Camout Ribs)

Point Size	Part#	Point Size	Part#
1	440-1X	1	446-1X
2	440-2X	2	446-2X
3	440-3X	3	446-3X

Point Size	Part#
2	212-2
3	212-3
4	212-4
6	212-6
8	212-8
10	212-10

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 - TRI-WING®



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			
Part #	Color Code	Diameter	Drill Size
C-3/32	ZINC	3/32	#40
C-1/8	COPPER	1/8	#30
C-27	GREEN	#27	#27
C-5/32	BLACK	5/32	#21
C-3/16	BRASS	3/16	#10

SIDE CLAMP			
Part #	Gap	Reach	Length
CSG 1/2 x 1/2	1/2	1/2	2-3/16
CSG 3/4 x 1/2	3/4	1/2	2-7/16
CSG 1/2 x 1	1/2	1	2-3/16
CSG 3/4 x 1	3/4	1	2-7/16



## A/C TAPER ROUTER

Hi-Speed R.H. Helix, R.H. Cut  
Taper - 1/4" per ft.



Part #	Size	Shank Dia.	Nom. Dia. Small End	Flute End Length	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"

## AEROSPACE TAPS



Part #	Description	Part #	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		

## HSS STOP COUNTERSINKS 100°

Three Flute, Integral Pilot  
1/4-28 Threaded Shank  
1/2" Body Diameter



Part #	Pilot Size	Decimal Equivalent	Part #	Pilot Size	Decimal Equivalent
27-251	#40	.0980	27-263	3/16	.1875
27-252	#30	.1280	27-256	#13	.1850
27-253	#27	.1440	27-257	#10	.1935
27-254	#21	.1590	27-265	1/4	.2500

## HSS STOP COUNTERSINKS 82°

Three Flute, Integral Pilot  
1/4-28 Threaded Shank  
1/2" Body Diameter



Part #	Pilot Size	Decimal Equivalent	Part #	Pilot 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 #	Size	Number of Hole Sizes	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 risk of damage by controlling  
depth of drilled hole.



Part #	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  
8% Cobalt, 135° Split Point



Part #	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

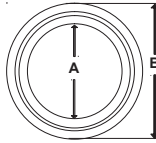
Squeeze Action,  
1/4-20 Spindle Thread,  
Neoprene Spindle



Part #	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



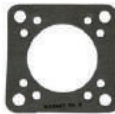
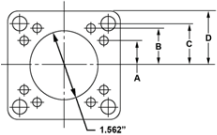
MS35769-	AN900-	A Dia.	B Dia.	Thickness
2	4	1/4	1/2	3/32"
5	5	5/16	9/16	3/32"
6	6	3/8	5/8	3/32"
8	7	7/16	11/16	3/32"
9	8	1/2	3/4	3/32"
10	9	9/16	13/16	3/32"
11	10	5/8	7/8	3/32"
12	---	5/8	1	5/64"
13	11	11/16	15/16	3/32"
15	12	3/4	1	3/32"
17	13	13/16	1-1/16	3/32"
18	14	7/8	1-1/8	3/32"

MS35769-	AN900-	A Dia.	B Dia.	Thickness
20	15	15/16	1-3/16	3/32"
21	16	1	1-1/4	3/32"
24	17	1-1/16	1-5/16	3/32"
26	18	1-1/8	1-3/8	3/32"
29	19	1-3/16	1-7/16	3/32"
31	20	1-1/4	1-1/2	3/32"
35	22	1-3/8	1-5/8	3/32"
39	24	1-1/2	1-3/4	3/32"
42	26	1-5/8	1-7/8	3/32"
46	27	1-11/16	1-15/16	3/32"
48	28	1-3/4	2	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"



## AN901

Suffix 'A' Aluminium  
Suffix 'C' Copper

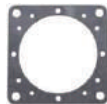
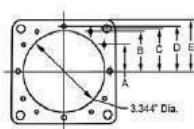


Tube O.D.	AN901	AN901
1/4	-4A	-4C
5/16	-5A	-5C
3/8	-6A	-6C
1/2	-8A	-8C
5/8	-10A	-10C
3/4	-12A	---
1	-16A	---

## 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"



## MS9371

## MS9372

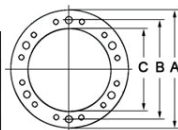
Gasket, Corrosion & Heat  
Resistant Steel Tubing,  
Silver Plated



## AS3493-01 (MS9136-01)

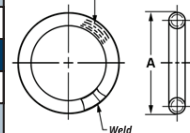
Gasket - Engine Accessory Drive

AS3493-01	
A Dia.	6.000"
B Dia.	5.000"
C Dia.	4.188"



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

Surface roughness lay must be in  
direction shown for this distance - both sides



## ALUMINIUM 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**

- Weight 0.40 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"
- Durable and Heavy Duty



## AVIATION SNIPS COMBINATION

**TP51K** (12" O.A.L., 1 lb)

- 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.

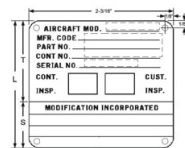


## IDENTIFICATION PLATES

**MS27253**

- Plain dash # for aluminium.
- C before dash for corrosion-resistant steel.
- F before dash for aluminium foil decal.
- P before dash for plastic plate.

Dash #	Height	Spaces (S)	Width
-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"



## BLIND RIVET NUT TOOL

(Rivnut® / Nutsert Tool)

**CN/12**

- Installs aluminium blind rivet nuts including **Rivnut®** brand.
- Sizes 6-32, 8-32, 10-32, 10-24, & 1/4"
- Quick change mandrels



# CHERRYMAX® /CHERRYLOCK® RIVETING TOOLS

## CHERRY HAND RIVETER

**G27**

- Lightweight hand riveter
- Can install most aluminium 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 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



## CHERRY RIVET GAUGE

**269C3**



## 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 (9") & TP68SR-6 (6")**

- 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

**TP74V**

- Installs 3/32, 1/8, 5/32, 3/16 Clecos



## WRENCH TYPE BLIND RIVET NUT HEADER

**L845** Old Part # 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

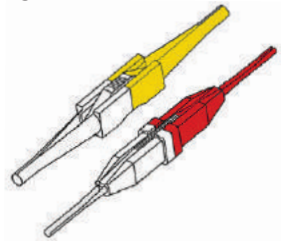
**C-7**

- 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 rivets
- Hardened cutting edges
- Rubber Grips



## HI-LOK<sup>®</sup> INSTALLATION/REMOVAL TOOLS

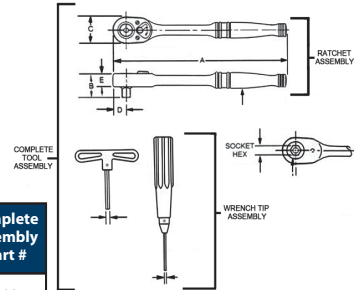
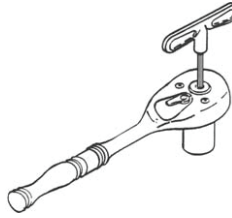
### HI-LOK TOOL ASSEMBLY

**ATHA** - Tool kit Part # - which contains  
Ratchet, Socket, & Hex Key.

**ATHS** - Socket Part #

**ATRR250** - Ratchet 1/4" Sq. Driver

**ATHK062** - Hex Key Part #

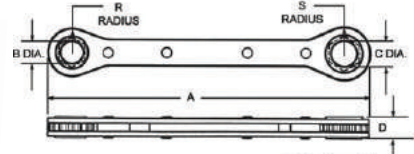


Socket Hex	Socket Part #	Ratchet Dimensions					Ratchet Part #	Hex Key Size	Hex Key Part #	Complete Assembly Part #
		A	B	C	D	E				
3/16"	ATHS187									ATHA1
7/32"	ATHS218	5"	1-1/4"	15/64"	7/16"	3/8"	ATRR250	1/16"	ATHK062	ATHA2
1/4"	ATHS250									ATHA3

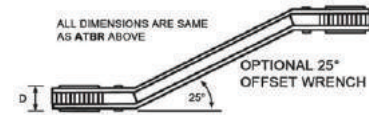
### DOUBLE BOX RATCHET WRENCH

**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"			

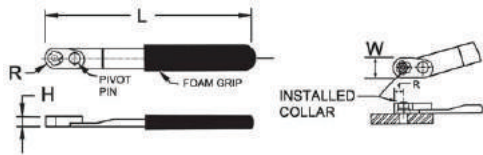


### COLLAR REMOVAL TOOL

**REM100** - Removes all threaded collars. Also will remove 'rounded-off' nuts.



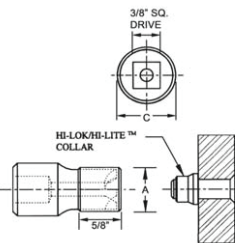
Pin Dia.	Part #	Nom. Pin Dia.	H	R	L	W
-5	REM100-56	5/32"	0.25	0.28	5.60	0.42
-6	REM100-56	3/16"	0.25	0.28	5.60	0.42
-8	REM100-8	1/4"	0.31	0.35	5.80	0.55



### COLLAR REMOVAL SOCKETS

**OMAR100** - Tool has 3 'teeth' that bite into collar to unscrew.

Nom. Pin Dia.	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



### HI-LOK PIN PROTRUSION GAUGE

2-1522



## CONSUMABLE PRODUCTS

### Thixo Aviation Grease

#### ThixoSyn Avi / Thixo#2

- Available in 425g Tubes & 17kg pales
- Applications including helicopter rotor shafts, splines and hub assemblies



### Dykem® Crosscheck / Torque Seal® 833##

- Tamper proof nuts, fasteners & assemblies
- 1 ounce tubes
- 24 Month Shelf Life
- Meets BMS8-45 Type II



Part #	Colour
83314	Orange
83315	Green
83316	Red
83317	Yellow
83318	Blue
83319	White
83320	Pink
83321	Gray

### Shell Water Detectors

#### Tubes / Kits (8 tubes)

- Detect presence of water in Jet Fuel
- 10 detectors per tube
- Reverse action syringe



PART #: SWD-TUBE / SWD-KIT



PART #: SWD-SYRINGE

### Premium Nitrile Gloves

#### Box / Carton (10 Boxes)

- Excellent Chemical Resistance
- Low Sweat Technology
- Hi-Visibility for FOD control
- Powder Free
- S, M, L, XL Available



PART #: NITRILE-GLOVE-####



### Acid Brushes

#### H0143, H0147

- 3/8" Width bristle brush
- 1/2" (H0143), 3/8" (H0147) trim length horse hair
- General purpose disposable brush



### Plastic AN Bolt Gauge

#### AN Bolt Gauge P





## ASSORTED HARDWARE KITS

AAE kits do not include compartment bins or cases. AAE kits include manufacturer name and lot numbers for traceability purposes. All kits consist of hardware considered to be common in the industry. Alternate part numbers may be supplied. Please allow a minimum of 1 week to ship.

<b>SOLID RIVET KIT #1</b> <i>Quantity of 1 pound of each</i>		<b>SOLID RIVET KIT # 2</b> <i>Quantity of 1 pound of each</i>		<b>BLIND RIVET NUT KIT</b> <i>Quantity of 50 each</i>	
MS20426AD3-4	MS20426AD4-6	MS20470AD3-4	MS20470AD4-6	A6-75	A6K75
MS20426AD3-5	MS20426AD4-8	MS20470AD3-5	MS20470AD4-8	A6-120	A6K120
MS20426AD3-6	MS20426AD5-6	MS20470AD3-6	MS20470AD5-6	A8-75	A8K75
MS20426AD4-3	MS20426AD5-8	MS20470AD4-3	MS20470AD5-8	A8-120	A8K120
MS20426AD4-4	MS20426AD6-6	MS20470AD4-4	MS20470AD6-6	A10-80	A10K80
MS20426AD4-5	MS20426AD6-8	MS20470AD4-5	MS20470AD6-8	<b>GROMMET KIT</b> <i>Quantity of 10 each</i>	
<b>SOLID RIVET KIT #3</b> <i>COMBINATION OF KITS #1 &amp; 2</i>				<b>CLAMP KIT</b> 25 MS21919WDG2 THRU -16	
<b>TINNERMAN KIT</b> <i>Quantity of 50 each</i>		<b>COTTER PIN KIT</b> <i>Quantity of 100 each</i>			
A1348-8Z1D	A1785-6Z1D	MS24665-132	MS24665-283		
A1758-10Z1D	A1786-8Z1D	MS24665-134	MS24665-285		
A1776-4Z1D	A1787-8Z1D	MS24665-136	MS24665-287		
A1777-6Z1D	A1787-10Z1D	MS24665-138	MS24665-289		
A1778-8Z1D	A1788-8Z1D	MS24665-140	MS24665-302		
A1779-10Z1D	A1789-8Z1D	MS24665-151	MS24665-360		
A1784-6Z1D		MS24665-153	MS24665-362		
		MS24665-155	MS24665-363		
		MS24665-22	MS24665-9		
		MS24665-281	MS24665-1012		
<b>SHEET METAL SCREW KIT</b> <i>Quantity of 100 each</i>				<b>CAPLUG KIT</b> <i>Quantity of 50 each</i>	
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			
<b>GASKET KIT</b>				<b>RING TERMINAL KIT</b> <i>Quantity of 25 each</i>	
10 EA. MS35769-2, 6, 8, 9, 10, 13, 15, 18 ,24, 51				MS25036-110, 112, 113, 115, 148, 149, 153, 154, 156, 157	
25 EA. MS35769-31, 48				M7928/5-2, 3, 4, 5	
50 EA. MS35769-11, 21				<b>SPACER KIT</b> <i>Quantity of 25 each with suffix "FC" for Chemical Film Finish</i>	
				NAS43DD3-8, 12, 16, 20, 24, 28, 32, 34, 36, 40, 48, 64	



<b>NON STRUCTURAL SCREW KIT #1</b>			
100 EA. AN526-632R4	THRU	-632R12	
100 EA. AN526-832R	THRU	-832R12	
100 EA. AN526-1032R6	THRU	-1032R16	
100 EA. MS24693-S2	THRU	S8	
100 EA. MS24693-S24	THRU	S30	
100 EA. MS24693-S46	THRU	S54	
100 EA. MS24693-S270	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	

<b>NON STRUCTURAL SCREW KIT #2</b>			
100 EA. MS24693-S24	THRU	S30	
100 EA. MS24693-S48	THRU	S52	
100 EA. MS24693-S270	THRU	S274	
100 EA. MS24693-C24	THRU	C30	
100 EA. MS24693-C48	THRU	C52	
100 EA. MS24693-C270	THRU	C274	

<b>NON-STRUCTURAL SCREW KIT #3</b>			
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	
<b>** This kit no longer contains: AN526-632R9</b>			

<b>STAINLESS SCREW KIT #1</b>			
100 EA. MS24693-C4	THRU	C8	
100 EA. MS24693-C24	THRU	C30	
100 EA. MS24693-C46	THRU	C52	
100 EA. MS24693-C270	THRU	C276	
100 EA. MS24694-C3	THRU	C7	
100 EA. MS24694-C48	THRU	C52	

<b>STAINLESS SCREW KIT #2</b>			
100 EA. AN526C632R4	THRU	C632R12	
100 EA. AN526C832R6	THRU	C832R16	
100 EA. AN526C1032R6	THRU	C1032R16	
100 EA. MS1957-30	AND	MS1957-45	
100 EA. MS1958-64	AND	MS1958-65	

<b>STAINLESS SCREW KIT #3</b>			
100 EA. AN526C632R6	THRU	C632R12	
100 EA. AN526C832R6	THRU	C832R12	
100 EA. AN526C1032R6	THRU	C1032R12	
100 EA. MS24693-C24	AND	MS24693-C30	
100 EA. MS24693-C46	THRU	C54	
100 EA. MS24693-C270	THRU	C276	
100 EA. MS24694-C5	THRU	C9	
100 EA. MS24694-C48	THRU	C54	

<b>BLACK BRASS SCREW KIT</b>			
100 EA. MS35214-14, 16, 20			
100 EA. MS35214-25	THRU	-33	
100 EA. MS35214-42	THRU	-47	
100 EA. MS24693-BB2, 6, 26, 28			
100 EA. MS24693-BB30	THRU	BB36	
100 EA. MS24693-BB50, 52, 54, 58			

<b>INSTRUMENT SCREW/ NUT KIT</b>			
100 EA. MS24693-BB28	THRU	BB36	
100 EA. MS24693-BB50	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	

<b>CLEVIS PIN KIT</b>			
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			

<b>CHERRYMAX® RIVET KIT #1</b>			
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			

<b>CHERRYMAX® RIVET KIT #2</b>			
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			

<b>CHERRY® NUTPLATE RIVET KIT</b>			
100 EA. CCR264CS3-02			
100 EA. CCR264CS3-03			
100 EA. CCR264CS3-04			
100 EA. CCR264SS3-02			
100 EA. CCR264SS3-03			
100 EA. CCR264SS3-04			





<b>"AN" BOLT KIT #1</b> (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

<b>"AN" BOLT KIT #2</b> (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

<b>"AN" BOLT KIT #3</b> (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

<b>"AN" BOLT KIT #4</b> (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		

<b>"AN" ASSORTED BOLT KIT</b>			
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

<b>WASHER KIT #1</b>			
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

<b>ASST. NUT/NUTPLATE KIT #1</b>			
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		

<b>ASST. NUT/NUTPLATE KIT #2</b>			
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		

<b>WASHER KIT #2</b>			
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		

<b>CASTLE/PLAIN NUT KIT</b> (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		

<b>SELF LOCKING NUT KIT</b>			
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

<b>NUTPLATE KIT</b>			
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		



## 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. MS24693-S2	THRU	MS24693-S8
100 EA. MS24693-S24	THRU	MS24693-S30
100 EA. MS24693-S46	THRU	MS24693-S52
100 EA. MS24693-S270	THRU	MS24693-S276

## 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. MS24694-S2	THRU	MS24694-S13
100 EA. MS24694-S47	THRU	MS24694-S58

## 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	MS27039C1-11

**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	



## FBO STAINLESS STARTER KIT #1 (128 Pieces)

100 EA.	MS24693-C26	THRU	MS24693-C30	25 EA.	AN3C3A	THRU	AN3C10A
100 EA.	MS24693-C48	THRU	MS24693-C52	25 EA.	AN4C4A	THRU	AN4C10A
100 EA.	MS24693-C272	THRU	MS24693-C274	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.	MS24694-C3	THRU	MS24694-C7	25 EA.	MS21075L06N		
100 EA.	MS24694-C50	THRU	MS24694-C54	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.	MS31045C08		
100 EA.	AN960C10L			25 EA.	MS21045C3		
100 EA.	AN960C416L			25 EA.	MS35489-10	THRU	MS35489-12
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.	A6K75		
100 EA.	MS35333-71			25 EA.	A8K75		
100 EA.	MS35333-72			25 EA.	A10K80		
100 EA.	MS35333-73			25 EA.	A6-75		
100 EA.	MS35333-74			25 EA.	A8-75		
100 EA.	MS35338-136			25 EA.	A10-80		
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.	MS24693-C26	THRU	MS24693-C30	100 EA.	AN960C6L		
100 EA.	MS24693-C48	THRU	MS24693-C52	100 EA.	AN960C8L		
100 EA.	MS24693-C272	THRU	MS24693-C274	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.	MS24694-C3	THRU	MS24694-C7	100 EA.	EC1085-020-10SS		
100 EA.	MS24694-C50	THRU	MS24694-C54	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 does not contain: AN526-632R9**

100 EA.	MS24693-S26	THRU	MS24693-S30	25 EA.	AN3-3A	THRU	AN3-12A
100 EA.	MS24693-S48	THRU	MS24693-S52	25 EA.	AN4-4A	THRU	AN4-12A
100 EA.	MS24693-S272	THRU	MS24693-S274	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.	MS24694-S4	THRU	MS24694-S9	25 EA.	MS21075L06N		
100 EA.	MS24694-S50	THRU	MS24694-S54	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.	A6K75		
100 EA.	MS24665-283			25 EA.	A8K75		
100 EA.	MS24665-285			25 EA.	A10K80		
100 EA.	MS24665-287			25 EA.	A6-75		
100 EA.	MS24665-300			25 EA.	A8-75		
100 EA.	MS21044N06			25 EA.	A10-80		
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 does not contain: AN526-632R9**

100 EA.	MS24693-S26	THRU	MS24693-S30	100 EA.	MS24665-300		
100 EA.	MS24693-S48	THRU	MS24693-S52	100 EA.	MS21044N06		
100 EA.	MS24693-S272	THRU	MS24693-S274	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.	MS24694-S4	THRU	MS24694-S9	100 EA.	AN960-6		
100 EA.	MS24694-S50	THRU	MS24694-S54	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



## FBO STARTER BIN KIT (144 Pieces)

100	MS24693-S26	100	AN525-10R10	100	AN310-4	50	AN3-7A
100	MS24693-S27	100	AN525-10R11	100	AN320-3	25	AN3-10A
100	MS24693-S28	100	AN525-10R12	100	AN320-4	25	AN3-11A
100	MS24693-S29	100	MS24694-S4	100	AN960-6	25	AN3-12A
100	MS24693-S30	100	MS24694-S5	100	AN960-8	25	AN4-4A
100	MS24693-S48	100	MS24694-S6	100	AN960-10	25	AN4-5A
100	MS24693-S49	100	MS24694-S7	100	AN960-416	25	AN4-6A
100	MS24693-S50	100	MS24694-S8	100	AN960-6L	25	AN4-7A
100	MS24693-S51	100	MS24694-S9	100	AN960-8L	25	AN4-10A
100	MS24693-S52	100	MS24694-S50	100	AN960-10L	25	AN4-11A
100	MS24693-S272	100	MS24694-S51	100	AN960-416L	25	AN4-12A
100	MS24693-S273	100	MS24694-S52	100	MS35333-37	25	AN3-3
100	MS24693-S274	100	MS24694-S53	100	MS35333-38	25	AN3-4
100	AN526-632R6	100	MS24694-S54	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	A6K75
100	AN525-832R8	100	MS21045-06	50	MS21059L08	50	A8K75
100	AN525-832R9	100	MS21045-08	50	MS21059L3	50	A10K80
100	AN525-832R10	100	MS21045-3	50	MS21075L06N	50	A6-75
100	AN525-832R11	100	MS21045-4	50	MS21075L08N	50	A8-75
100	AN525-832R12	100	MS21083N06	50	MS21075L3N	50	A10-80
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	MS24693-S26	100	AN526-1032R12	100	MS24694-S53	100	AN960-8
100	MS24693-S27	100	AN525-832R6	100	MS24694-S54	100	AN960-10
100	MS24693-S28	100	AN525-832R7	100	MS24665-132	100	AN960-416
100	MS24693-S29	100	AN525-832R8	100	MS24665-134	100	AN960-6L
100	MS24693-S30	100	AN525-832R9	100	MS24665-136	100	AN960-8L
100	MS24693-S48	100	AN525-832R10	100	MS24665-151	100	AN960-10L
100	MS24693-S49	100	AN525-832R11	100	MS24665-153	100	AN960-416L
100	MS24693-S50	100	AN525-832R12	100	MS24665-155	100	MS35333-37P
100	MS24693-S51	100	AN525-10R6	100	MS24665-283	100	MS35333-38P
100	MS24693-S52	100	AN525-10R7	100	MS24665-285	100	MS35333-39P
100	MS24693-S272	100	AN525-10R8	100	MS24665-300	100	MS35333-40P
100	MS24693-S273	100	AN525-10R9	100	MS21044N06	100	MS35338-41M
100	MS24693-S274	100	AN525-10R10	100	MS21044N08	100	MS35338-42M
100	AN526-632R6	100	AN525-10R11	100	MS21044N3	100	MS35338-43M
100	AN526-632R8	100	AN525-10R12	100	MS21044N4	100	MS35338-44M
100	AN526-632R10	100	MS24694-S4	100	MS21045-06	25	MS21047L06
100	AN526-632R12	100	MS24694-S5	100	MS21045-08	25	MS21047L08
100	AN526-832R6	100	MS24694-S6	100	MS21045-3	25	MS21047L3
100	AN526-832R8	100	MS24694-S7	100	MS21045-4	25	MS21059L06
100	AN526-832R10	100	MS24694-S8	100	MS21083N06	25	MS21059L08
100	AN526-832R12	100	MS24694-S9	100	MS21083N08	25	MS21059L3
100	AN526-1032R6	100	MS24694-S50	100	MS21083N3	25	MS21075L06N
100	AN526-1032R8	100	MS24694-S51	100	MS21083N4	25	MS21075L08N
100	AN526-1032R10	100	MS24694-S52	100	AN960-6	25	MS21075L3N



### 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 MS24665-231
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 MS24693-S2	100 MS24693-S46
100 MS24693-S3	100 MS24693-S47
100 MS24693-S4	100 MS24693-S48
100 MS24693-S5	100 MS24693-S49
100 MS24693-S6	100 MS24693-S50
100 MS24693-S7	100 MS24693-S51
100 MS24693-S24	100 MS24693-S52
100 MS24693-S25	100 MS24693-S52
100 MS24693-S26	100 MS24693-S270
100 MS24693-S27	100 MS24693-S271
100 MS24693-S28	100 MS24693-S272
100 MS24693-S29	100 MS24693-S273
100 MS24693-S30	100 MS24693-274

### MS24693 S/S BIN KIT

100 MS24693-C2	100 MS24693-C46
100 MS24693-C3	100 MS24693-C47
100 MS24693-C4	100 MS24693-C48
100 MS24693-C6	100 MS24693-C49
100 MS24693-C7	100 MS24693-C50
100 MS24693-C24	100 MS24693-C51
100 MS24693-C25	100 MS24693-C52
100 MS24693-C26	100 MS24693-C270
100 MS24693-C27	100 MS24693-C271
100 MS24693-C28	100 MS24693-C272
100 MS24693-C29	100 MS24693-C273
100 MS24693-C30	100 MS24693-C274

### MS24694 BIN KIT

100 MS24694-S2	100 MS24694-S47
100 MS24694-S3	100 MS24694-S48
100 MS24694-S4	100 MS24694-S49
100 MS24694-S5	100 MS24694-S50
100 MS24694-S6	100 MS24694-S51
100 MS24694-S7	100 MS24694-S52
100 MS24694-S8	100 MS24694-S53
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