

How can we help? 1-866-796-5125



ECAS

Melbourne, FL - Las Vegas, NV

2015

FULL-LINE CATALOG

**Distributor of AN, MS and NAS
Aviation & Electrical Components**

Order Online www.ecasinc.com

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The East Coast Aviation Supplies staff is proud to announce the completion of our merger with Monroe Engineering Products of Auburn Hills Michigan.

This strategic merger is great news for both our staff and our customers as Monroe brings a level of financial strength that allows us to offer an even greater value than we have in the past.

As one of America's largest stocking distributors of aircraft and mil-spec hardware, we pride ourselves on the extensive product lines that we offer to our customer base. With Monroe at our side, we will be expanding our existing product lines, as well as adding new ones. Also, we now have the ability to provide much more flexible terms to our customers!

Here are a few of the benefits we now offer:

- **No minimum PO:** We understand in today's industry that minimum PO's can sometimes be a hassle, so we have removed them from our order requirements! We have equipped our distribution centers with new equipment, which allows us to custom package your orders with well documented lot control, no matter the quantity!
- **Blanket orders are now available:** With your long term release we will position and bag stock to your unique timetable and requirements.
- **Vendor managed inventory:** We now have aerospace professionals that can visit your facility and work closely with you to identify processes and procedures which will best fill your bill of materials and ease your workload.
- **Multiple Locations:** We have distribution centers in both Melbourne Florida and Las Vegas Nevada.
- **Website Revamp:** We are currently in the process of overhauling our website (www.ecasinc.com). This new platform will allow our customers to have a simple and informative user experience.

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

How can we help?

1-866-796-5125

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399 East Drive
Melbourne, FL 32904

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7540 Dean Martin Drive Ste. 507
Las Vegas, NV 89139

ECAS QUALITY SYSTEMS

Our policy “Uncompromised Quality and Service” is a commitment to error free performance and continuous improvement to assure consistent conformance to our customers’ expectations. Conformance to ISO 9001:2008 establishes the following guidelines on which we base our quality system.

Quality Planning

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

Quality Manual

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

Customer Purchase Order Review

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

Document and Data Control

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

Purchasing

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

Product Traceability

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

Process Controls

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

Inspection and Testing

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

Control of Inspection and Measuring Equipment

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

Inspection Status

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

Control of Non-Conforming Product

- 11) ECAS has developed procedures for control, identification, segregation, documentation, evaluation and disposition of non-conforming products.

Corrective and Preventive

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

Handling, Packaging and Delivery Procedures

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

Control of Quality Records

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

Training

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

Internal Quality Audits

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

ECAS PRODUCT LINE

AERODUCT DUCTING
AEROQUIP FIRESLEEVE
AEROQUIP FITTINGS
AEROQUIP HOSE
AIRCRAFT WIRE
AIRLOC FASTENERS
BEARINGS
BLACK BRASS SCREWS
BRACKET AIR FILTERS
BOLTS
AN, MS, NAS
BONDING JUMPERS
BUSHINGS
BUTT SPLICES
CABLE CUTTERS
CABLE HARDWARE
CAMLOC PLIERS
CAMLOCS
CAPLUGS
CHERRY NUTPLATE RIVETS
CHERRY RIVETS
CHERRY RIVET TOOLING
CIRCUIT BREAKERS
CLAMPS
CLEANERS & DEGREASERS
CLECO FASTENERS
CLECO TOOLING
CLEVIS BOLTS
CLEVIS PINS
CLEVIS ROD ENDS
CLEVELAND BRAKE PADS
CONICAL SEALS
CONTINENTAL GASKETS
CONTINENTAL PRODUCTS
CONTROL CABLE
CORROSION X
COTTER PINS
COVER GASKETS
COWLING MOUNTS
CRIMP SPLICES
CURTIS DRAIN VALVES
DELRON INSERTS
DRILL BITS
DRILL JIGS (PLATE NUT)
DRILL STOPS
DZUS FASTENERS
ELECTRICAL COMPONENTS
EXHAUST GASKETS
EYE BOLTS
FILLISTER HEAD SCREWS
FITTINGS
AN & MS
AEROQUIP
NYLON & BRASS

STRATOFLEX
FLOATING CLIP NUTS
FUSES
GASKETS
GREASE
GREASE FITTINGS
GROMMETS
GROMMET EDGING
HARDWARE KITS
HEAT SHRINK TUBING
HI-LOKS AND COLLARS
HI-LOK TOOLING
HINGES
HINGE PINS
HUCK RIVETS
HOSE
HOSE CLAMPS
INDICATOR LIGHTS
INSERTS
HELICOIL
KEENSERTS
SANDWICH PANEL
JO-BOLTS
KLIXON BREAKERS
KNIFE SPLICES
LIGHTING/BULBS
LORD COWLING MOUNTS
LOCKING CLIPS, PINS
LPS PRODUCTS
LYCOMING PRODUCTS
MONEL RIVETS
NICROPRESS SLEEVES
NIPPLE, ELECTRICAL
NUTS
BARRELL NUTS
CASTLE NUTS
CHECK NUTS
CLIPNUTS
EB NUTS
EXHAUST NUTS
INSTRUMENT NUTS
JAM NUTS
NYLON CAP NUTS
PIPER CLIP NUTS
SELF LOCKING NUTS
TINNERMAN NUTS
WING NUTS
12 POINT NUTS
NUTPLATES
O'RINGS
PAINTS
PANEL FASTENERS
PANEL INSERTS
PATCH PLATES

PULLEYS
POP RIVETS & TOOLING
POTTER BRUMFIELD BREAKERS
PULLEYS
PULLEY GUARD PIN
QUARTZ LAMPS
RETAINING RINGS
RIVETS
RING TERMINALS
RIVNUTS & TOOLING
SAFETY WIRE
SCAT HOSE
SCREWLOCK ASSEMBLIES
SCREWS
AN, MS & NAS
DRIVE SCREWS
FILLISTER HEAD
HEX HEAD
INSTRUMENT
OHMSC
SET SCREWS
SHEET METAL
SOCKET HEAD
TAPPING
WASHER HEAD
SEALANTS (RTV & SILICONE)
SEALED BEAM LAMPS
SHACKLES
SILICONE COVER GASKETS
SOLDER SLEEVES
SOLID RIVETS
SOUTHCO FASTENERS
SPACERS
SPIRAL WRAP
SPRING PINS
STRATOFLEX FITTINGS
STRATOFLEX HOSE
SWITCH GUARDS
SWITCHES
TEMPO PAINTS, PRIMERS
TERMINAL BOARD ASSEMBLIES
TERMINAL LINKS
THIMBLES, CABLES
TIE WRAPS
TINNERMAN NUTS
TINNERMAN WASHERS
TOGGLE SWITCHES
TOOLING
TRIDAIR PRODUCTS
TURNBUCKLE HARDWARE
WARNING STREAMERS
WASHERS
WIRE
WIRE CAPS

MANUFACTURER'S DIRECTORY

3V FASTENERS
AADOX
ABBOTT
ACCURATE BUSHING
ADEL WIGGINS
AEROFIT PRODUCTS
AEROSPACE PRODUCTS
AEROTECH FASTENERS
AEROSPACE RIVET
AIRFASCO
AIR INDUSTRIES
ALARIN
ALCOA
ALEMITE
ALLFAST
ALL-POWER MFG
ALLSTATES RUBBER
AMERIFAST
ANATASE
ANILLO
ARVAN
AURORA BEARING
AUTOMATIC SCREW
AVDEL CHERRY TEXTRON
AVIBANK MFG
AVK
B&B SPECIALTIES
B&E MFG
BELL MEMPHIS
BLANC AERO
BREEZE
BRISTOL INDUSTRIES
BURNDY
BUSSMAN
CALIFORNIA SCREW
CAM-TECH INDUSTRIES
CAPLUG
CATAMOUNT
CBS
CIRCUIT SYSTEMS
CLECO
CRESCENT
DEUTSCH
DFCI
DOWELS, PINS & SHAFTS
DZUS
EATON
EMPIRE

ESNA/SPS
ETC MOLEX
F.I.T.
FABER
FAFNIR BEARING
FASTENAIR
FREEMAN COMPANY
GENIE
GERALD DANIEL
GLENAIR
GREER
GUARDIAN
HEARTLAND PRECISION
HEIM
HELI-COIL
HI-SHEAR
HYDRO FITTING
HUCK (ALCOA)
IDEAL FASTENERS
INDIANA AIRCRAFT HARDWARE
INLAND MACHINE COMPANY
INTERNATIONAL SEAL
J&M PRODUCTS
KATO FASTENING SYSTEMS
KAYNAR
KLIXON
LADEAU
LFC
LINREAD NORTHBRIDGE
LONG-LOK
LOOS
MAGNA-AIRE
MARSON
MARTIN COMPANY
MICRO PLASTICS
MICRODOT INSERT
MICROSWITCH
MINI-MAC
MINOR RUBBER
MOELLER
MONADNOCK
MONOGRAM
M.R.L.
NATIONAL RIVET
NEW HAMPSHIRE BEARING
NMB TECHNOLOGIES
NYLON MOLDING
OBM (OTT BROS)

OHIO GASKET
PAMCO
PAOLO ASTORI
PANDUIT
PARKER HANNIFIN
PB FASTENERS
PERMASWAGE / NELSON
PILGRIM SCREW
POP
POTTER & BRUMFIELD
PRECISION FORM RIVET
PRECISION SHAPES
R&B ELECTRONICS
RALMARK
RAYCHEM
RBC-HEIM BEARING
RISCO, INC.
ROSAN
SATURN FASTENERS
SCHATZ BEARING
SCOVILL
SCREWCORP
SEASTROM
SESCO
SHAW
SHUR-LOCK
SIMMONDS / MECAERO
SKY MFG
SOUTHCO
SPIROL
SPS
STELLEX BANDY HINGE
STRATOFLEX
SUPERIOR WASHER
TEXAS INSTRUMENTS
THOMAS & BETTS
TIMKEN SUPER PRECISION
TINNERMAN
TORRINGTON CO
TRIDAIR
TRI-FITTING MFG
TYTON CORP
UMPCO
VAN PETTY
VOISHAN
WEST COAST LOCKWASHER
WESTERN WIRE
YOUNG ENGINEERS

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

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22FH Locknut	100	AJ, AJW Dzus	76	HL93, HL94, HL97 Hi-Lok Collars	71
27FT Locknut	100	AP50 Conical Seal	169	HL110 & 111 Hi-Loks	66
37 Series Southco Latches	186	AS O'Rings	120	HL218 & 219 Hi-Loks	56
42FLW 12 Point Nut	105	AS15001 & AS15002	169	HL220 & 221 Hi-Loks	57
44P Poly-Flow Tubing	141	ADP Series Caplugs	167	HL325 & 326 Hi-Loks	58
47FLW 12 Point Nut	105	AGC Series Fuses	123	HL327 & 328 Hi-Loks	59
82 Series Southco	80	AIT518 Plate Nut Drill Jigs	192	HLT77 Hi-Lok Collar	71
85 Series Southco	81	ASC & ASP Series Caplugs	167	HLT900 & HLT912 Hi-Loks	65
066-10500 Brake Pads	185	AVBLEND Oil Supplement	184	HRJ Fuse Holder	123
102 Series Panel Inserts	133	BA Series Brackett Air Filters	168	HST10AG Hi-Loks	64
111 Stratoflex Hose	176	CA3105 Fairing Washer	84	HST11AG Hi-Loks	64
140-001 Washer	86	CA21021 & CA21024	75	J7444	106
193 Stratoflex Hose	177	CA21037 & CA21038	75	KM610	186
212-12 Camloc Receptacles	72	CAV & CCA Valves	168	KFN587	103
214-16 Camloc Receptacles	74	CCR264 & CCR274 Rivets	41	KFN600	103
244-16 Camloc Receptacles	74	CD Series Caplugs	167	LPS-1, LPS-2, & LPS-3	184
300 Stratoflex Fitting	169, 176	CR1122 Rivet	41	LW-16702 Oil Additive	184
303 Aeroquip Hose	170	CR2162 & CR2163 Rivets	40	M7928/5	131
306 Aeroquip Hose	171	CR2238 & CR2239 Rivets	40	M22759/16 Wire	126
311 Stratoflex Fitting	169, 177	CR2245 Rivets	40	M24308/25 Male Screwlock	125
350 Aeroquip Hose Assembly	170	CR2248 & CR2249 Rivets	40	M24308/26 Female Screwlock	125
359 Aeroquip Hose Assembly	171	CR2662 Rivets	41	M25988 O'Rings	119
471 Aeroquip Fitting	169, 171	CR3212 & CR3213 Rivets	39	M27500 Cable	126
491 Aeroquip Fitting	169, 170	CR3214 Rivets	42	M23053/5 Heat Shrink	129
601 & 603 Interior Washer	85	CR3222 & CR3223 Rivets	43	M39029 Contacts	124
646 Stratoflex Fitting	176	CR3224 Rivets	42	M81714 Terminal Junctions	125
666 Aeroquip Hose	175	CR3242 & CR3243 Rivets	39	M81969 Insertion/Extraction Tool	124
2350-18 Series Receptacle	78	CR3245 Rivets	42	M83248 O'Rings	119
2351-20 Series Studs	78	CR3252 & CR3253 Rivets	43	M83461 O'Rings	119
2500-18 Series Receptacle	78	CR3522 & CR3523 Rivets	43	M83519 Terminal Shield	131
2501-20 Series Studs	78	CR3524 Rivets	42	M85052 Clamps	140
2600 Camloc Series	72	CR3552 & CR3553 Rivets	43	MDL Series Fuses	123
2700 Camloc Series	73	CR9117 Rivets	41	MIL-DTL-6000 Hose	172
4002 Camloc Series	74	CR9162 & CR9163 Rivets	41	MIL-T-43435B Lacing Cord	185
4002 Camloc Grommets	74	CR9179 Rivets	42	OHMSC Machine Screw	33
7274 Circuit Breakers	128	D142	126	PD & PDE Series Caplugs	167
7277 Circuit Breakers	128	D436	126	PE21101-3	23
9505 Nutsert	35	D1274-8-1 Tinnerman Nut	113	PR35 Right Angle Strip	77
11202 & 11204 Clipnuts	113	EB Nuts	105	PR35-1 Flat Strip	77
80102 Corrosion X	185	EC & EP Series Caplugs	167	PGC13 Prist® Cleaner	184
105002-00 Brake Rivet	185	EC Washers	85	PHF204 Prist® Anti-Icing Additive	184
130007 & 130008 Clipnuts	107	F22NKM	103	PRB3.5 Receptacle	77
130061 & 130062 Clipnuts	107	F22NKT	103	PFSC35 Dzus Stud	77
130068 Clipnut	107	FJ DZUS	76	QS Clamps	138
294667 Clipnut	107	FX10-1502	79	R5 & RF5 Receptacles	78
324484 thru 324486 End Splices	126	FX10-1525	79	R35 & RF35 Receptacles	78
900591B-#C	172	FX10-1558	79	R35 & RF35 Receptacles	78
13080000 Clipnut	107	FX10-15009	79	RF5-5 & RF35-5 Spacers	78
13100000 Clipnut	107	FX10-15010	79	S9412 O'Ring	120
A3.5T, A5T Dzus	78	FX10-15030	79	S4579428AD Rivets	50
A1348 thru A1932 Tinnerman Nuts	113	GA5 Full Grommet	78	SCAT & SCEET Hose	172
A1638 Washer	86	GH35 & GH5 Half Grommets	78	SL210 & SL211 Clip-Nuts	106
A3135-017-24A	85	GYN145	96	SL213 & SL215 Clip-Nuts	106
A3235-020-24A	85	HKP Fuse Holder	123	SPB, SPN, & SW Spiral Wrap	126
A3235-028-24A	85	HL10 & 11 Hi-Loks	66	SR5SS & SR35SS Snap Rings	78
A3236-012-24A	85	HL18 & 19 Hi-Loks	52	SX510SS & SX551SS Springs	78
A6195 Tinnerman Nutplates	113	HL20 & 21 Hi-Loks	53	TC5828 Ty-Rap® Mounting Base	130
AA55487 Locking Pins	190	HL22 & 23 Hi-Loks	60	TL800 DZUS Latches	186
AA55488 Locking Pins	190	HL30 & 40 Hi-Loks	61	TP35AHT DZUS Tool	77
AAPQ Rivet	41	HL41 & 48 Hi-Loks	62	TP456 Taper Router Bits	192
AB Marson Rivets	34	HL50 & 51 Hi-Loks	63	TP565 Drill Gauge	192
AD POP Rivets	34	HL62 & 63 Hi-Loks	54	TPA Unibit Drills	192
AE102 Firesleeve	172	HL64 & 65 Hi-Loks	55	TPMM Strap Duplicators	192
AE246 Aeroquip Hose	173	HL70, HL75, HL77 Hi-Lok Collars	68	TY Tie Wraps	127
		HL78, HL79, HL82 Hi-Lok Collars	69	W23, W31, W58 Breakers	128
		HL84 & HL86 Hi-Lok Collars	70		



Certificate of Registration

This certifies that the Quality Management System of

East Coast Aviation Supplies

399 East Drive
Melbourne, Florida, 32904, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2008

Scope of Registration:

Distribution of Aerospace, Mil-Spec, Electronic Hardware and Components.



Certificate Number: C0248424-IS1
Certificate Issue Date: 06-MAY-2015
Registration Date: 26-AUG-2012
Expiration Date *: 25-AUG-2015



Carl Blazik,
Director, Technical
Operations & Business Units,
NSF-ISR, Ltd.

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AN3 AIRFRAME BOLT (10-32 Thread)

AN3-#A (Undrilled Shank)

AN3-# (Drilled Shank)



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

AN3C AIRFRAME BOLT CORROSION RESISTANT (10-32 Thread)

AN3C #A (Undrilled Shank)

AN3C # (Drilled Shank)



DESCRIPTION		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		Undrilled	Drilled
Length	Grip	AN3H	AN3H
15/32	1/16	3A	3
17/32	1/8	4A	4
21/32	1/4	5A	5
25/32	3/8	6A	6
29/32	1/2	7A	7
1 - 1/32	5/8	10A	10
1 - 5/32	3/4	11A	11
1 - 9/32	7/8	12A	12
1 - 13/32	1	13A	13
1 - 17/32	1 - 1/8	14A	14
1 - 21/32	1 - 1/4	15A	15
1 - 25/32	1 - 3/8	16A	16

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

1-800-330-3975

AN4 AIRFRAME BOLT (1/4-28 Thread)

AN4-#A (Undrilled Shank)

AN4-# (Drilled Shank)



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

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

AN4C-#A Undrilled Shank

AN4C-# Drilled Shank



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

AN4H AIRFRAME BOLT (1/4-28 Thread)

AN4H-#A Drilled Head

With Undrilled Shank



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

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

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

AN5H#A (5/16-24 Thread)

Drilled Head, Undrilled Shank

AN5C#A (5/16-24 Thread)

Corrosion Resistant Steel

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)



AN8 AIRFRAME BOLT (1/2-20 Thread)

AN8-#A

(Undrilled Shank)

AN8-#

(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

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
"A" Following Dash #
Indicates Undrilled Shank



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

AN174

Close Tolerance Bolt
.2500-28 Thread
"A" Following Dash #
Indicates Undrilled Shank



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

AN175

Close Tolerance Bolt
.3125-24 Thread
"A" Following Dash #
Indicates Undrilled Shank



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

AN176

Close Tolerance Bolt
.3750-24 Thread
"A" Following Dash #
Indicates Undrilled Shank



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

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

SPECIALTY CLOSE TOLERANCE BOLTS

"A" Following Dash Number Indicates Undrilled Shank

"C" Following Basic Part Number Indicates Corrosion Resistant Steel

"H" Following Basic Part Number Indicates Drilled Head



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

EYE BOLT

AN42B (10-32 UNF-3A Thread)

AN43B (1/4-28 UNF-3A Thread)

"A" Following Dash # Indicates Undrilled Shank



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

CLEVIS BOLT

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



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

CLEVIS PIN

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



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

NAS6203

Close Tolerance Bolt

.1900-32 Thread

"D" Following Dash # for Drilled Shank

"H" Following Dash # for Drilled Head



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

Supersedes NAS464P3 and NAS1103 Series

NAS6204

Close Tolerance Bolt

.2500-28 Thread

"D" Following Dash # for Drilled Shank

"H" Following Dash # for Drilled Head



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

Supersedes NAS464P4 and NAS1104 Series

NAS6205

Close Tolerance Bolt

.3125-24 Thread

"D" Following Dash # for Drilled Shank

"H" Following Dash # for Drilled Head



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

NAS6206

Close Tolerance Bolt

.3750-24 Thread

"D" Following Dash # for Drilled Shank

"H" Following Dash # for Drilled Head



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

Supersedes NAS464P5 Series and NAS1105 Series

Supersedes NAS464P6 Series and NAS1106 Series

NAS6603

Close Tolerance Bolt

.1900-32 Thread

"D" Following Base # for Drilled Shank

"H" Following Base # for Drilled Head



Description		NAS6603	NAS6603
Length	Grip ±.010	Undrilled	Drilled
.407	.062	1	D1
.470	.125	2	D2
.533	.188	3	D3
.595	.250	4	D4
.657	.312	5	D5
.720	.375	6	D6
.783	.438	7	D7
.845	.500	8	D8
.907	.562	9	D9
.970	.625	10	D10
1.033	.688	11	D11
1.095	.750	12	D12
1.157	.812	13	D13
1.220	.875	14	D14
1.283	.938	15	D15
1.345	1.000	16	D16
1.407	1.062	17	D17
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

Supersedes NAS1303 Series

NAS6604

Close Tolerance Bolt

.2500-28 Thread

"D" Following Base # for Drilled Shank

"H" Following Base # for Drilled Head



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

Supersedes NAS1304 Series

NAS6605

Close Tolerance Bolt

.3125-24 Thread

"D" Following Base # for Drilled Shank

"H" Following Base # for Drilled Head



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

Supersedes NAS1305 Series

NAS6606

Close Tolerance Bolt

.3750-24 Thread

"D" Following Base # for Drilled Shank

"H" Following Base # for Drilled Head



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

Supersedes NAS1306 Series

NAS1578 - FLAT PAN HEAD BOLT

"A" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating
Offset Cruciform Recess per MS14191



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

NAS1580 - 100° FLUSH HEAD BOLT

"A" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating
Offset Cruciform Recess per MS14191



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

NAS1581 - 100° FLUSH REDUCED HEAD BOLT

"F" Following Basic Part # Indicates Alloy Steel
"C" Following Basic Part # Indicates A-286 Corrosion Resistant
"P" At the end of the #, Indicates type II, Class 2 Cadmium Plating
Offset Cruciform Recess per MS14191



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

MS20004 thru MS20006

Internal Wrenching Bolt

Replaces NAS144, NAS145, NAS146

****See note at bottom of this page**



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

MS21250

External Wrenching Bolt, Flanged

12 Point. 180 KSI

****See note at bottom of this page**



MS21250 Second Dash #	Grip $\pm .010$	Thread, First Dash # & Total Length			
		.1900-32	.2500-28	.3125-24	.3750-24
		-03	-04	-05	-06
006	.375	.815	.887	.974	1.020
008	.500	.940	1.012	1.099	1.145
010	.625	1.065	1.137	1.224	1.270
012	.750	1.190	1.262	1.349	1.395
014	.875	1.3.5	1.387	1.474	1.520
016	1.000	1.440	1.512	1.599	1.645
018	1.125	1.565	1.637	1.724	1.770
020	1.250	1.690	1.762	1.849	1.895
022	1.375	1.815	1.887	1.974	2.020
024	1.500	1.940	2.012	2.099	2.145

NAS624 thru NAS626

External Wrenching

12 Point Bolt, 180,000 PSI

****See note at bottom of this page**



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

**** Suggested Nuts for the Bolts on this page - NAS1804, NAS1805, 42FLW & 47FLW (see pages 104 & 105)**

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-.120
-11	.812	.122-.182
-12	.875	.185-.245
-13	.938	.248-.308
-14	1.000	.310-.370
-15	1.062	.372-.432

MS9556

Double Hexagon
Machine Bolt,
Extended Washer Head



MS9556 (.1900 - 32 Dia.)

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

MS9565

Double Hexagon
Machine Bolt
Drilled Head
Extended Washer Head



MS9565 (.1900-32 Dia.)

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

MS9696

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



MS9696 (.1900- 32 Dia.)

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

MS20033 MS20034

Hexagon
Machine Bolt
1200° F



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

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		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

MS20074

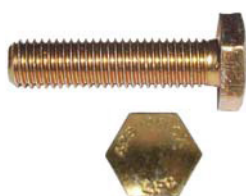
Drilled
Head Bolt
Coarse Thread



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

NAS428

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



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

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



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

NAS4403 NAS4404

100° Close Tolerance Bolt,
Tri-Slot Recess



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

NAS1003 NAS1004

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



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

NAS1202 NAS1203 NAS1204

100° Close Tolerance Bolt



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

NAS1297

Shoulder Bolt, Hex Head
.1900-32 Diameter



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

NAS1993 NAS1994

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



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

NAS4503U, NAS4504U

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



Dash #	Grip	.1900-32	.2500-28
		NAS4503	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	.2500-28
		NAS4703	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	.1900-32
		NAS5002	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

NAS6406A10Z

NAS6408A17D

NAS6408A84

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



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

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 Diameter, Short Thread,
Cruciform Recess, 160-180 KSI Min.
Ultimate Tensile, 95 KSI Min. Ultimate Shear



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

NAS8602, NAS8603

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



Dash #	Grip	Thread, Basic Part # & Length	
		.1640-32	.1900-32
		NAS8602	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	.1900-32
		NAS8702	NAS8703
2	.125	.448	.448
3	.188	.511	.511
4	.250	.573	.573
5	.312	.635	.635
6	.375	.698	.698
7	.438	.761	.761
8	.500	.823	.823
9	.562	.885	.885
11	.688	1.011	1.011
12	.750	1.073	1.073

NAS8803A

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



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

NAS514P

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



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

NAS387

100° Oval Head
Machine Screw
Recessed Head,
Fully Threaded



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

NAS600, NAS601 NAS602, NAS603 NAS604

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



Thread	Length	NAS600
4-40	.250	4P
	.312	5P
	.375	6P
	.500	8P
	.625	10P
	.750	12P
Thread	Length	NAS601
6-32	.250	4P
	.375	6P
	.438	7P
	.500	8P
	.625	10P
	.750	12P
	.875	14P
8-32	1.00	16P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
10-32	.62	10P
	.75	12P
	.875	14P
	1.000	16P
	1.250	20P
	1.375	22P
	1.500	24P
	.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	NAS602
8-32	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
10-32	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
12-32	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
14-32	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
16-32	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
18-32	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
20-32	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
22-32	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
24-32	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
26-32	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
28-32	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
30-32	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
32-32	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
34-32	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
36-32	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
38-32	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
40-32	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
42-32	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
44-32	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
46-32	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
48-32	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
50-32	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
52-32	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
54-32	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
56-32	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
58-32	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
60-32	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
62-32	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
64-32	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
66-32	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
68-32	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
70-32	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
72-32	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
	.56	9P
	.62	10P
74-32	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
	1.0	16P
	1.1	18P
76-32	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
	.44	7P
	.50	8P
78-32	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
	.88	14P
	.94	15P
80-32	1.0	16P
	1.1	18P
	1.25	20P
	1.50	24P
	.25	4P
	.31	5P
	.38	6P
82-32	.44	7P
	.50	8P
	.56	9P
	.62	10P
	.69	11P
	.75	12P
	.81	13P
84-32	.88	14P

MS24693 (AN507)

100° Flat Head
Machine Screw,
Non-Structural



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

MS24693 (AN507)

100° Flat Head

Machine Screw, Non-Structural



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

NON-STRUCTURAL SCREW KIT #1

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

NON-STRUCTURAL SCREW KIT #2

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

NON-STRUCTURAL SCREW KIT #3

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

STAINLESS SCREW KIT #1

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

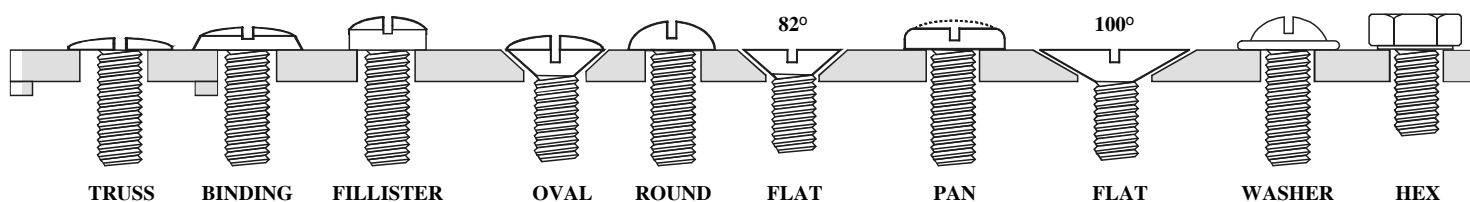
STAINLESS SCREW KIT #2

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

STAINLESS SCREW KIT #3

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

FASTENER HEAD STYLES



MS24694 (AN509)

100° Flat Head Screw
Structural Machine Screw



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

MS24694 (AN509)

100° Flat Head Screw,
Structural Machine Screw



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

PE21101

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

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

(Image of: PE21101-3-10SD)



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

(Image of: PE21101-3-6CP)



STRUCTURAL SCREW KIT #1

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

STRUCTURAL SCREW KIT #2

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

STRUCTURAL SCREW KIT #3

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

AN526

Truss Head
Machine Screw
Non-Structural



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

MS51957

MS51958

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



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

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

MS35206 (AN515)

Pan Head,
Machine Screw,
Coarse Thread



Thread	Length	MS35206	AN515
2-56	1/4	203	2R4
	5/16	204	2R5
	3/8	205	2R6
	7/16	206	2R7
	1/2	207	2R8
	5/8	208	2R10
	3/4	209	2R12
4-40	3/16	212	4R3
	1/4	213	4R4
	5/16	214	4R5
	3/8	215	4R6
	7/16	216	4R7
	1/2	217	4R8
	5/8	218	4R10
	3/4	219	4R12
	7/8	220	4R14
	1	221	4R16
	1 - 1/4	222	4R20
	1 - 1/2	223	4R24
	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
6-32	3/4	232	6R12
	7/8	233	6R14
	1	234	6R16
	1 - 1/8	328	6R18
	1 - 1/4	235	6R20
	1 - 1/2	236	6R24
	1 - 3/4	237	6R28
	2	238	6R32
	3/16	240	8R3
	1/4	241	8R4
	5/16	242	8R5
8-32	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
	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
10-24			

MS35207 (AN520)

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



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

NAS623

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



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

MS27039

Structural Machine Screw,
Crossed-Recessed



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

MS27039C

Structural Machine Screw
Corrosion Resistant



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

MS27039DD

Structural Machine Screw,
2024 Aluminum Alloy



Thread	Length	Grip	MS27039
8-32	.406	---	DD0806
	.469	---	DD0807
	.531	.094	DD0808
	.656	.219	DD0810
	.781	.344	DD0812
	.906	.469	DD0814
	1.031	.594	DD0816
	.406	---	DD1-06
10-32	.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

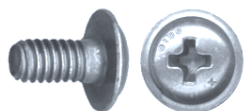
Washer Head Screw
Structural, Alloy Steel



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

AN525

Washer Head
Machine Screw,
Structural, Aluminum



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

NAS517

Close Tolerance
100° Flat Head Screw



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

MS35214 (AN515B) (Course Thread)

MS35215 (AN520B) (Fine Thread)

Black Brass Instrument
Pan Head Screw



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

MS24693BB

(AN507B)

Black Brass Instrument
Pan Head Screw



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

MS24693-#B

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



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

MS51957-#B (Course Thread)

MS51958-#B (Fine Thread)

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



Thread	Length	MS51957
4-40	1/4"	13B
	5/16"	14B
	3/8"	15B
	7/16"	16B
	1/2"	17B
	7/8"	20B
6-32	5/16"	27B
	7/16"	29B
	1/2"	30B
	3/4"	32B
	7/8"	33B
	1"	34B
8-32	3/8"	43B
	7/16"	44B
	1/2"	45B
	5/8"	46B
	3/4"	47B
Thread	Length	MS51958
10-32	7/16"	62B
	1/2"	63B
	5/8"	64B
	3/4"	65B

MS35265
MS35266

Fillister Head, Machine Screw,
Drilled, Slotted



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

AN502

Fillister Head Screw,
Drilled, Slotted



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

AN503

Fillister Head Screw,
Drilled, Slotted



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

NAS1101

Flat Fillister Head
Full Thread Machine Screw
Offset Cruciform Recess



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

NAS1351, NAS1352
MS16995, MS16996, MS16997, MS16998

Socket Head Screw - UNDRILLED



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

NAS1351, NAS1352
MS24673, MS24674, MS24677, MS24678

Socket Head Screw - DRILLED



Diameter	Length	ALLOY STEEL		STAINLESS STEEL	
		NAS1352	MS24677	NAS1352	MS24674
.1380-32	3/8	06H6P	7	C06H6	2
	1/2	06H8P	8	C06H8	3
	5/8	06H10P	9	C06H10	4
	3/4	06H12P	10	C06H12	5
.1640-32	3/8	08H6P	14	C08H6	7
	1/2	08H8P	15	C08H8	8
	5/8	08H10P	16	C08H10	9
Diameter	Length	NAS1351	MS24678	NAS1351	MS24673
.1900-32	3/8	3H6P	9	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	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

NAS1802

Hex Head Screw
Full Thread, Cruciform Recess
A286 CRES Steel



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

MS35308

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



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

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

NAS1096

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



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

NAS1153

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

Material Codes:

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

Finish Codes:

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

Steel

Corrosion
Resistant

Titanium
Alloy



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

MS21207 (CAD II PLATING)

NAS548P (CAD I PLATING)

100° Flat Head Tapping Screw



Diam.	Length	MS21207	NAS548P
No. 4	1/4	4-4	4-4
	3/8	4-6	4-6
	1/2	4-8	4-8
No. 6	3/8	6-6	6-6
	1/2	6-8	6-8
	5/8	6-10	6-10
	3/4	6-12	6-12
	7/8	6-14	6-14
No. 8	3/8	8-6	8-6
	1/2	8-8	8-8
	5/8	8-10	8-10
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.	Dia.	Dia.	Dia.
	.058	.073	.098	.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	.1640-32	.1900-32
	NAS1102-	NAS1102-	NAS1102-
.250	---	---	3-4
.312	06-5	---	---
.375	06-6	08-6	3-6
.438	---	08-7	3-7
.500	06-8	08-8	3-8
.625	06-10	08-10	3-10
.750	---	08-12	3-12
.875	---	---	3-14
1.00	---	08-16	3-16
1.25	---	---	3-20
1.50	---	---	3-24
1.75	---	---	3-28

NAS1623

100° Flat Head Machine Screw

Short Thread (10-32 Dia.)

Offset Cruciform



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

MS51861, AN530

Pan Head Tapping Screw,

MS51861 Type A Point,

AN530 Type B Point

Add "C" after Dash # for

Corrosion Resistant (MS51861 ONLY)



Diam.	Length	MS51861	AN530
No. 4	1/4	12	4R4
	3/8	14	4R6
	1/2	15	4R8
	5/8	16	4R10
	3/4	17	4R12
No. 6	1/4	22	6R4
	3/8	24	6R6
	1/2	25	6R8
	5/8	26	6R10
	3/4	27	6R12
No. 8	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. 60,000



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

SHEET METAL SCREW

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



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

OVALHEAD

Sheet Metal
Screws



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

PAN HEAD

Sheet Metal Screws
Type "B"



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

FLAT HEAD 82°

Sheet Metal
Screws
Type "B"



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

OHMSC

Oval Head
Machine Screw, Stainless



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

FLAT HEAD 100°

Sheet Metal Screws
Stainless
Type "A"



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

POP RIVETS

Non-Structural,
Commercial Grade, Domed



Aluminum Rivet / Aluminum Mandrel - SMALL FLANGE

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

Aluminum Rivet / Aluminum Mandrel - LARGE FLANGE

Diameter	Grip Range	POP	Marson
1/8	.032-.125 .126-.187 .188-.250	AD42ABSFL AD43ABSFL AD44ABSFL	ABL4-2A ABL4-3A ABL4-4A
5/32	.188-.250	AD54ABSFL	ABL5-4A

Aluminum Rivet / Steel Mandrel - SMALL FLANGE

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

Aluminum Rivet / Steel Mandrel - LARGE FLANGE

Diameter	Grip Range	POP	Marson
1/8	.032-.125 .126-.187 .188-.250 .313-.375	AD42BSFL AD43BSFL AD44BSFL AD46BSFL	ABL4-2 ABL4-3 ABL4-4 ABL4-6
5/32	.188-.250	AD54BSFL	ABL5-4

AVEX RIVETS

Non-Structural,
Aluminum Body, Steel Stem

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

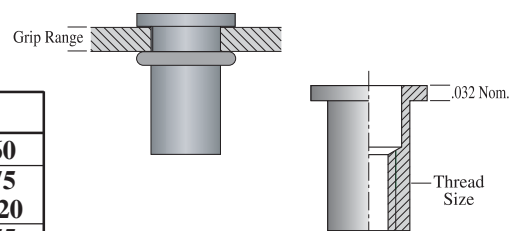


NAS1329, MS27130

Rivnut, Flat Head, Internal Thread
Keyed (K) and, Unkeyed

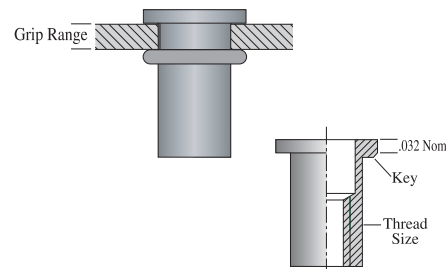
UNKEYED

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



KEYED

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

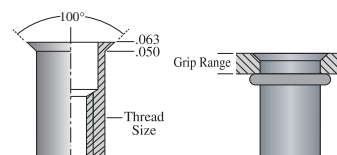


NAS1330, MS27130

Rivnut, Countersunk Head, Internal Thread
Keyed (K) and Unkeyed

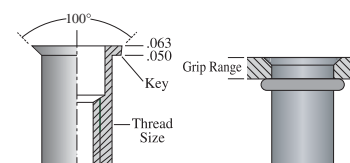
UNKEYED

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



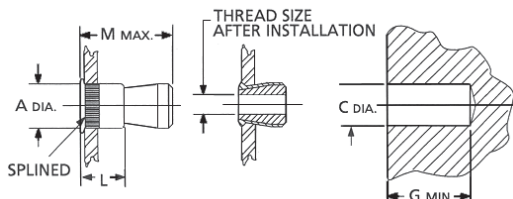
KEYED

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



NUTSERT

9505 Series, Splined Body
Carbon Steel, Cadmium Plate



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

* Recommended min. hole size C

NAS1669

Jo Bolts, Blind Fastener

Internally Threaded, External Sleeve

“L” after First Dash # indicates Self-Locking Feature

“DL” after First Dash # indicates Self-Locking and Drive Nut Features



NAS1669

Protruding Head

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

NAS1670

Jo Bolts, Blind Fastener

Internally Threaded, External Sleeve

“L” after First Dash # indicates Self-Locking Feature



NAS1670

Flush Head

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

NAS1750 NAS1751

Jo Bolts, Blind Fastener

Internally Threaded, External Sleeve

NAS1750

Flush Head



NAS1751

Protruding Head



Grip Range	Diameter	NAS1750	Diameter	NAS1750
.094 - .156	.164	08L2	.200	3L2
.157 - .217		08L3		3L3
.220 - .281		08L4		3L4
.282 - .344		08L5		3L5
.345 - .406		08L6		3L6
.407 - .469		08L7		3L7
.470 - .531		08L8		3L8
Grip Range	Diameter	NAS1751	Diameter	NAS1751
.094 - .156	.164	08L2	.200	3L2
.157 - .217		08L3		3L3
.220 - .281		08L4		3L4
.282 - .344		08L5		3L5
.345 - .406		08L6		3L6
.407 - .469		08L7		3L7
.470 - .531		08L8		3L8

MS90353

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



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

"-" after basic part # denotes installation with a double action tool.

"S" after basic part # denotes fastener installed with a single action tool.

"U" after basic part # denotes single action fasteners installed with a single action tool.

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

MS90354

Blind Rivet, Protruding Head
High Strength
Alloy Steel 112KSI



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

"-" after basic part # denotes installation with a double action tool.

"S" after basic part # denotes fastener installed with a single action tool.

"U" after basic part # denotes single action fasteners installed with a single action tool.

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

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

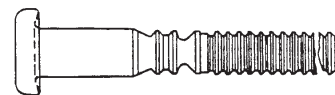
Pin, Swage Locking
Steel, Standard
100° Shear Head, Pull Type



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.)

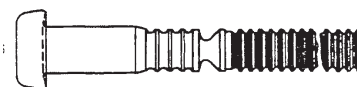
Pin, Swage Locking
Steel, Standard
100° Head Tension, Pull Type



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

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

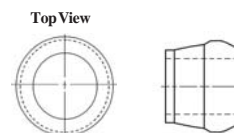
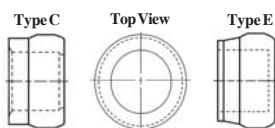
Pin, Swage Locking, Steel,
Standard & Protruding Head, Tension Pull-Type



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

NAS1080 Collar

Swage-Locking for Pull Type Lockbolts

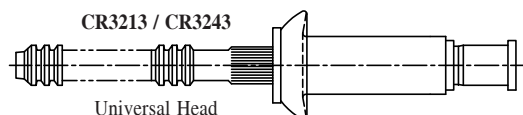
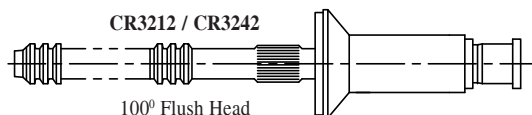


Shear				Tension			
NAS Part #	Nom. Size	Total Length		NAS Part #	Nom. Size	Total Length	
		Min.	Max.			Min.	Max.
NAS1080C06 NAS1080E06 NAS1080G06 NAS1080AG06	.190	.185	.205	NAS1080-05 NAS1080AT05 NAS1080R05	.164	.170	.200
NAS1080C08 NAS1080E08 NAS1080G08 NAS1080AG08	.250	.220 .230	.236 .250	NAS1080-06 NAS1080R06	.190	.233	.263
				NAS1080-08 NAS1080R08	.250	.305	.335
"C" indicates 2024 Aluminum "E" indicates Carbon steel				"G" indicates 2024 Aluminum alloy "AG" indicates 2219 Aluminum "R" indicates Carbon steel "AT" indicates 2219 Aluminum Alloy			

CHERRYMAX RIVET

CR3212, CR3213
CR3242, CR3243

Alloy Steel Stem
Aluminum Rivet

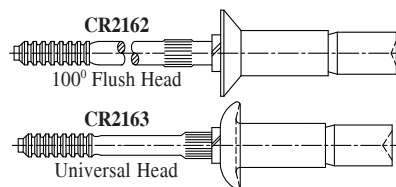


Diameter	Grip Range	CR3212	Diameter	Grip Range	CR3213
1/8	.025 - .062	---	1/8	.025 - .062	4-01
	.063 - .125	4-02		.063 - .125	4-02
	.126 - .187	4-03		.126 - .187	4-03
	.188 - .250	4-04		.188 - .250	4-04
	.251 - .312	4-05		.251 - .312	4-05
	.313 - .375	4-06		.313 - .375	4-06
	.376 - .437	4-07		.376 - .437	4-07
	.438 - .500	4-08		.438 - .500	4-08
	.501 - .562	4-09		.501 - .562	4-09
5/32	.031 - .062	---	5/32	.031 - .062	5-01
	.063 - .125	5-02		.063 - .125	5-02
	.126 - .187	5-03		.126 - .187	5-03
	.188 - .250	5-04		.188 - .250	5-04
	.251 - .312	5-05		.251 - .312	5-05
	.313 - .375	5-06		.313 - .375	5-06
	.376 - .437	5-07		.376 - .437	5-07
	.438 - .500	5-08		.438 - .500	5-08
	.501 - .562	5-09		.501 - .562	5-09
	.563 - .625	5-10		.563 - .625	5-10
3/16	.037 - .062	---	3/16	.037 - .062	6-01
	.063 - .125	6-02		.063 - .125	6-02
	.126 - .187	6-03		.126 - .187	6-03
	.188 - .250	6-04		.188 - .250	6-04
	.251 - .312	6-05		.251 - .312	6-05
	.313 - .375	6-06		.313 - .375	6-06
	.376 - .437	6-07		.376 - .437	6-07
	.438 - .500	6-08		.438 - .500	6-08
	.501 - .562	6-09		.501 - .562	6-09
	.563 - .625	6-10		.563 - .625	6-11
3/16	.626 - .687	6-11		.626 - .687	6-12
Diameter	Grip Range	CR3242	Diameter	Grip Range	CR3243
.140	.025 - .062	4-01	.140	.025 - .062	4-01
	.063 - .125	4-02		.063 - .125	4-02
	.126 - .187	4-03		.126 - .187	4-03
	.188 - .250	4-04		.188 - .250	4-04
	.251 - .312	4-05		.251 - .312	4-05
	.313 - .375	4-06		.313 - .375	4-06
	.376 - .437	4-07		.376 - .437	4-07
	.438 - .500	4-08		.438 - .500	4-08
	.501 - .562	4-09		.501 - .562	4-09
.173	.031 - .062	---	.173	.031 - .062	5-01
	.063 - .125	5-02		.063 - .125	5-02
	.126 - .187	5-03		.126 - .187	5-03
	.188 - .250	5-04		.188 - .250	5-04
	.251 - .312	5-05		.251 - .312	5-05
	.313 - .375	5-06		.313 - .375	5-06
	.376 - .437	5-07		.376 - .437	5-07
	.438 - .500	5-08		.438 - .500	5-08
	.501 - .562	5-09		.501 - .562	5-09
.201	.037 - .062	---	.201	.037 - .062	6-01
	.063 - .125	6-02		.063 - .125	6-02
	.126 - .187	6-03		.126 - .187	6-03
	.188 - .250	6-04		.188 - .250	6-04
	.251 - .312	6-05		.251 - .312	6-05
	.313 - .375	6-06		.313 - .375	6-06
	.376 - .437	6-07		.376 - .437	6-07
	.438 - .500	6-08		.438 - .500	6-08
	.501 - .562	6-09		.501 - .562	6-09

CHERRYLOCK RIVET (WIREDRAW)

CR2162 CR2163

7075 Aluminum Stem
2017 Aluminum Sleeve

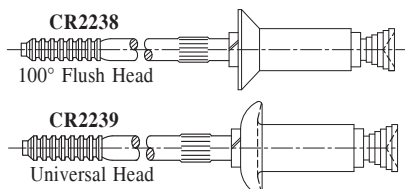


Diameter	Grip Range	CR2162	CR2163
1/8	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05

CHERRYLOCK BULBED RIVET

CR2238 CR2239

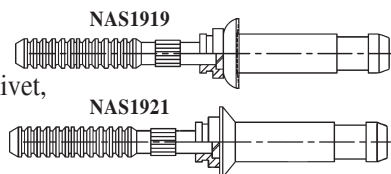
Inconel 600 Stem
5056 Aluminum Sleeve
Monel Lock Ring



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

NAS1919M NAS1921M

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



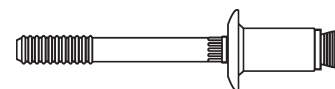
Diameter	Grip Range	NAS1919
.125	.063 - .125	M04-02
	.126 - .187	M04-03
	.188 - .250	M04-04
	.251 - .312	M04-05
.156	.080 - .125	M05-02
	.126 - .187	M05-03
	.188 - .250	M05-04
	.251 - .312	M05-05
.125	.063 - .125	M04S02
	.126 - .187	M04S03
	.188 - .250	M04S04
	.251 - .312	M04S05
.156	.080 - .125	M05S02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

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

CHERRYLOCK BULBED RIVET

CR2245

Aluminum Rivet
8740 Steel Stem
Unisink Head

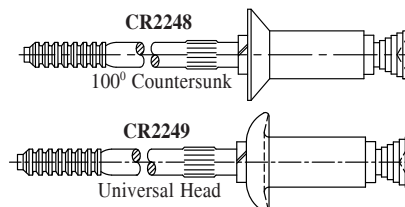


Diameter	Grip Range	CR2245
1/8	.045 - .062	4-01
	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05

CHERRYLOCK BULBED RIVET

CR2248 CR2249

Alloy Steel Stem
Aluminum Sleeve

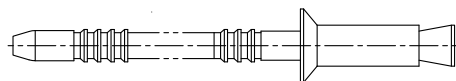


Diameter	Grip Range	CR2248	CR2249
1/8	.020 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 - .312	5-05	5-05
	.313 - .375	5-06	5-06
3/16	.063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

CCR264

Cherry Nutplate
Rivet

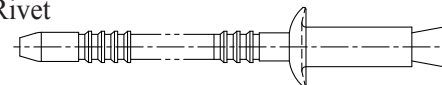
MS20426 100° Countersunk Head



Dia.	Grip Range	Carbon Steel	Corrosion Resistant
		CCR264	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

CCR274

Cherry Nutplate Rivet
Universal Head

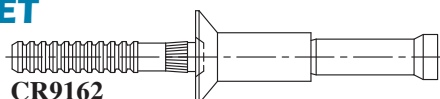


Dia.	Grip Range	Carbon Steel	Corrosion Resistant
		CCR274	CCR274
3/32	.046 - .062	SS3-01	CS3-01
	.063 - .125	SS3-02	CS3-02
	.126 - .187	SS3-03	CS3-03
	.188 - .250	SS3-04	CS3-04
	.251 - .312	SS3-05	CS3-05
	.313 - .375	SS3-06	CS3-06
	.376 - .437	SS3-07	CS3-07
	.438 - .500	SS3-08	CS3-08

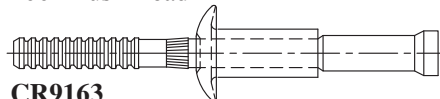
CHERRY RIVET

CR9162
CR9163

Self-Plugging,
Serrated Stem
Aluminum Stem
& Rivet



CR9162
100° Flush Head

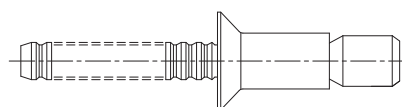


CR9163
Universal Head

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

CR1122

Self-Plugging Rivet
A286 Stem
Aluminum Sleeve

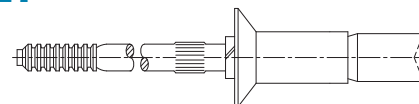


Diameter	Grip	CR1122
3/32	.080 - .125	3-02
	.126 - .187	3-03
	.188 - .250	3-04
	.251 - .312	3-05

CHERRY RIVET

CR2662

Wire Draw
Countersunk Head
Corrosion Resistant
Monel Lock Ring



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

CHERRY "Q" RIVETS

AAPQ

5056 Aluminum Rivet
7178 Aluminum Mandrel

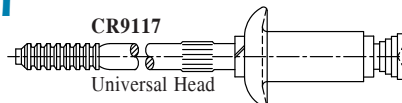


Diameter	Grip Range	Part#
1/8	.063 - .125	AAPQ-42
	.126 - .187	AAPQ-43
	.188 - .250	AAPQ-44

CHERRY RIVET

CR9117

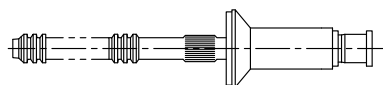
Serrated Stem
Pull Through
Aluminum Rivet
Steel Stem



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

CHERRYMAX RIVET CR3214

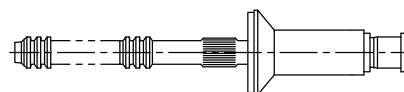
Alloy Steel Stem
Aluminum Alloy Sleeve
100° Flush Shear Head



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

CHERRYMAX RIVET CR3224

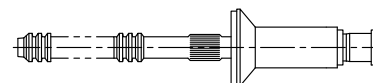
Corrosion Resistant Stem
Aluminum Alloy Sleeve
100° Flush Shear Head



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

CHERRYMAX RIVET CR3524

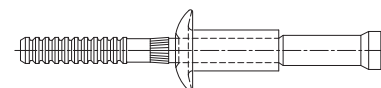
Corrosion Resistant Stem
Monel Sleeve
100° Flush Shear Head



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

CR9179

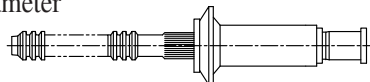
Self-Plugging Rivet
2117 Aluminum Stem
2017 Aluminum Sleeve



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

CHERRYMAX RIVET CR3245

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

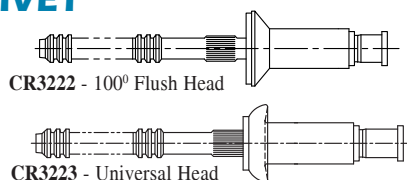


Diameter	Grip Range	CR3245
.140	.033 - .062	4-01
	.063 - .125	4-02
	.126 - .187	4-03
	.188 - .250	4-04
	.251 - .312	4-05
	.313 - .375	4-06
	.376 - .437	4-07
.173	.063 - .125	5-02
	.126 - .187	5-03
	.188 - .250	5-04
	.251 - .312	5-05
	.313 - .375	5-06
	.376 - .437	5-07
	.438 - .500	5-08
.201	.063 - .125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

CHERRYMAX RIVET

CR3222
CR3223

Corrosion
Resistant Stem
Aluminum Alloy Rivet

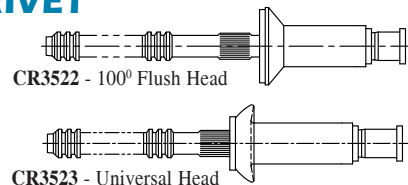


Diameter	Grip Range	CR3222	CR3223
1/8	.025 - .062	4-01	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
5/32	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250	5-04	5-04
	.251 -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

CHERRYMAX RIVET

CR3522
CR3523

Corrosion Resistant
Stem
Monel Rivet

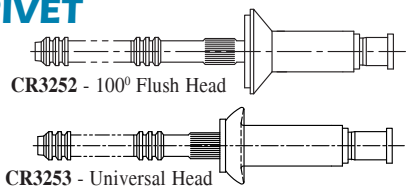


Diameter	Grip Range	CR3522	CR3523
1/8	.025 - .062	---	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
5/32	.031 - .062	---	5-01
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250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

CR3252
CR3253

Corrosion Resistant Stem
Aluminum Alloy
Rivet (Oversized)

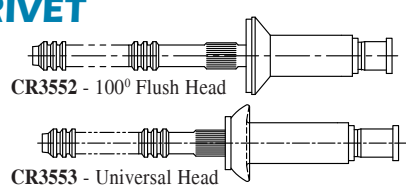


Diameter	Grip Range	CR3252	CR3253
.140	.025 - .062	-	4-01
	.063 - .125	4-02	4-02
	.126 - .187	4-03	4-03
	.188 - .250	4-04	4-04
	.251 - .312	4-05	4-05
	.313 - .375	4-06	4-06
	.376 - .437	4-07	4-07
	.438 - .500	4-08	4-08
.173	.031 - .062	---	5-01
	.063 - .125	5-02	5-02
	.126 - .187	5-03	5-03
	.188 - .250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

CHERRYMAX RIVET

CR3552
CR3553

Corrosion
Resistant Stem
Monel Rivet (Oversized)



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

MS20426AD

Solid Rivet

2117-T4, Aluminum Alloy



MS20426 - 100° Flush Head

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

MS20470AD

Solid Rivet

2117-T4, Aluminum Alloy



MS20470 - Universal Head

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

MS20426D, MS20470D

Solid Rivet, 2017-T4 Aluminum Alloy



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

MS20426E, MS20470E

Solid Rivet, 7050-T73 Aluminum Alloy



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

NAS1200M

Solid Rivet, 100° Flush Shear Head, Monel



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

NAS1097KE

100° Flush Shear Head, 7050-T73 Aluminum Alloy



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

MS20426A
MS20470A

Solid Rivet
Soft Rivet, 1100-F
Aluminum Alloy



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

MS20426B
MS20470B

Solid Rivet
5056-H32
Aluminum Alloy



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

MS20615

Monel Rivet
Universal Head



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

MS20427F

Solid Rivet 100° Countersunk
Corrosion Resistant (F)



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

MS20427M

Solid Rivet 100° Countersunk
Monel (M)



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

MS20613

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



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

NAS1097AD

100° Flush Shear Head,
2117-T4 Aluminum Alloy



NAS1097AD 100° FLUSH SHEAR HEAD

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

NAS1097D

100° Flush Shear Head,
2017-T4 Aluminum Alloy



NAS1097D 100° FLUSH SHEAR HEAD

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

NAS1241

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



Diameter	Length	NAS1241
.140	.188	AD4-3
	.250	AD4-4
	.312	AD4-5
	.375	AD4-6
	.438	AD4-7
	.500	AD4-8
	.562	AD4-9
	.625	AD4-10
	.750	AD4-12
.172	.250	AD5-4
	.312	AD5-5
	.375	AD5-6
	.438	AD5-7
	.500	AD5-8
	.562	AD5-9
	.625	AD5-10
.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
Universal Head
2117-T4 Aluminum Alloy
MS20470 Repair



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

S4579428AD (McDonnell Part #)

AF138AD (Allfast Part #)
100° Crown Flush Shear Head
2117-T4 Aluminum Alloy



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

RIVETS PER POUND REFERENCE TABLE

MS20426 (Aluminum) LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	5500	4900	4025	3420	2975	2635	2360	2140	1950	1800	1735	1555	1460	1370
4	3077	2754	2265	1930	1675	1485	1330	1200	1100	1000	940	875	820	775
5	1850	1670	1390	1190	1040	925	830	755	690	640	595	555	520	490
6	1200	1090	910	790	700	620	560	510	465	430	404	375	350	330

MS20470 (Aluminum) LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	4460	4040	3435	2990	2645	2375	2150	1960	1800	1680	1575	1460	1380	1300
4	2240	2065	1780	1565	1390	1260	1145	1055	970	900	850	790	745	700
5	1300	1210	1050	935	840	760	690	645	600	550	500	490	465	440
6	880	745	700	630	570	520	475	440	400	380	350	335	315	300

MS20427 (Monel)				LENGTH										
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1925	1510	1230	1045	905	800	720	650	595	550	500	475	445	420
4	1075	845	690	590	510	450	405	365	335	310	285	265	245	220
5	660	520	430	370	325	285	255	230	210	195	180	165	158	148
6	450	360	297	254	220	195	176	160	145	135	125	117	110	100

MS20615 (Monel) LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1370	1170	980	860	750	675	610	565	525	490	460	430	405	380
4	660	565	490	435	390	365	325	300	280	260	245	230	215	205
5	375	325	290	255	235	215	195	182	170	160	150	140	133	126
6	230	203	182	165	151	138	128	118	112	105	100	95	90	81

MS20427 (Corrosion Resistant)														
LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	2175	1705	1390	1180	1020	905	815	735	670	620	570	535	500	475
4	1215	955	780	665	575	510	480	410	375	350	320	300	280	255
5	745	585	485	420	365	320	285	260	240	220	205	190	180	167
6	510	405	335	285	250	220	200	180	165	153	141	132	125	116

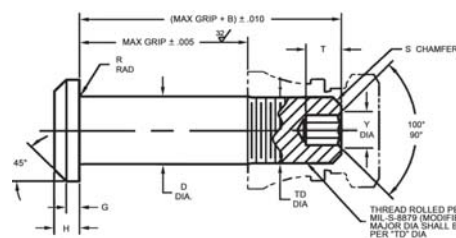
MS20613 (Corrosion Resistant) LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	1550	1320	1100	970	855	760	690	640	595	555	520	485	455	430
4	745	640	555	490	440	400	365	340	315	295	278	259	245	230
5	425	385	325	292	265	240	223	206	192	180	168	159	150	142
6	261	229	209	186	171	156	145	133	127	119	112	105	100	95

NAS1097 (Aluminum) LENGTH														
Dia.	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	5900	5300	4430	3765	3275	2900	2600	2355	2160	2000	1910	1710	1600	1510
4	3375	3030	2495	2120	1845	1630	1465	1320	1210	1120	1038	965	900	850
5	2045	1845	1530	1310	1145	1020	915	830	765	705	655	610	570	540
6	1330	1200	1010	870	765	680	610	560	515	475	440	415	390	365

THE ABOVE QUANTITIES ARE FOR YOUR CONVENIENCE AND ARE APPROXIMATED

HL18 HI-LOK

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

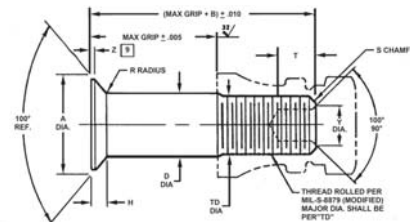


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.312	.1635 .1625	.1595 .1570	.020	.047 .037	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.025	.055 .045	10-32-UNJF-3A Modified	5,380	2,500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

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

HL19 HI-LOK

100° Flush Shear Head
95,000 PSI Shear MIN
160,000 - 180,000 PSI,
Tensile Strength, Alloy Steel

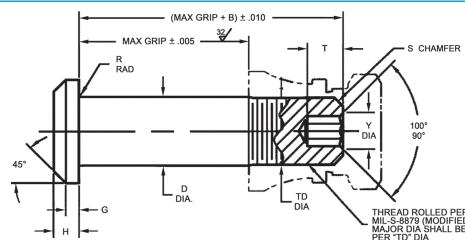


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2612 .2564	.312	.1635 .1625	.1595 .1570	.0410 .0390	8-32UNJC-3A Modified	4,010	1,290
-6	3/16	.3016 .2966	.325	.1895 .1885	.1840 .1810	.0470 .0450	10-32-UNJF-3A Modified	5,380	2,000
-8	1/4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

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

HL20 HI-LOK

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

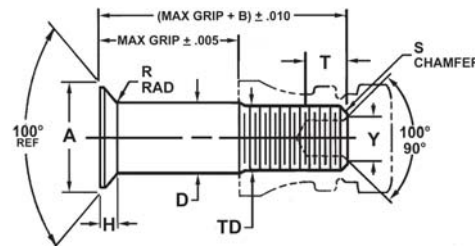


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.322 .306	.312	.1635 .1625	.1595 .1570	.030	.060 .055	8-32UNJC-3A Modified	4,010	2,180
-6	3/16	.377 .357	.325	.1895 .1885	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	5,380	3,180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

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

HL21 HI-LOK

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

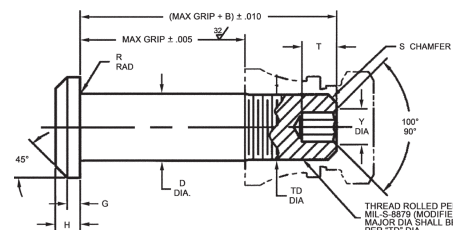


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.3304 .3256	.312	.1635 .1625	.1595 .1570	.0700 .0680	8-32UNJC-3A Modified	4,010	2,180
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32-UNJF-3A Modified	5,380	3,180
-8	1/4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

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

HL62 HI-LOK

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

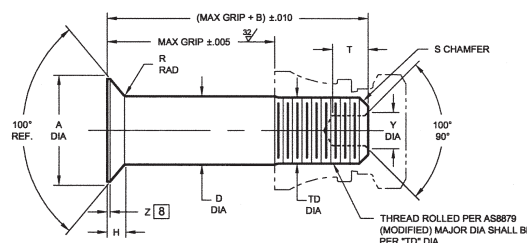


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Dia.	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5									NOTE: Use HL18PB6		
-6	13/64	.315 .295	.325	.2026 .2016	.1840 .1810	.025	.055 .045	.025 .015	10-32-UNJF-3A Modified	6,130	2,500
-8	17/64	.412 .387	.395	.2651 .2641	.2440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

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

HL63 HI-LOK

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									NOTE: Use HL19PB6		
-6	13/64	.3016 .2966	.325	.2026 .2016	.1840 .1810	.035	.074 .064	.025 .015	10-32-UNJF-3A Modified	6,130	2,000
-8	17/64	.3948 .3898	.395	.2651 .2641	.2440 .2410	.045	.080 .077	.025 .015	1/4-28UNJF-3A Modified	10,490	3,700

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

HL64 HI-LOK

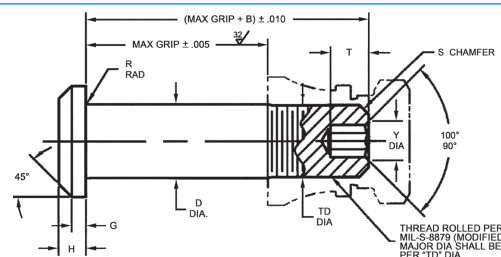
Protruding Tension Head

1/64 Oversize for HL20

Alloy Steel

160,000 - 180,000

PSI Tensile Strength



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

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

HL65 HI-LOK

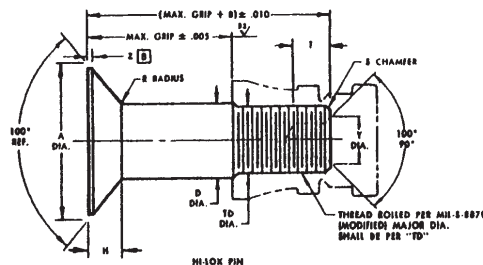
100° Flush Tension Head

1/64 Oversize for HL21

Alloy Steel

160,000 - 180,000

PSI Tensile Strength

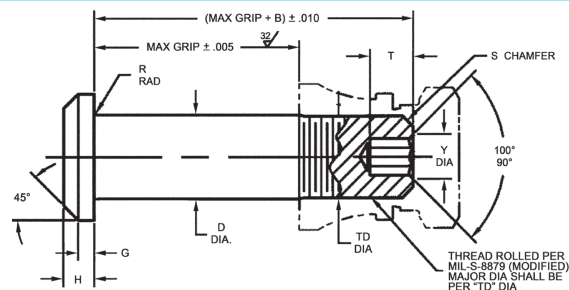


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5							NOTE: Use HL21PB6		
-6	13/64	.3813 .3765	.325	.2026 .2016	.1840 .1810	.0750 .0730	10-32-UNJF-3A Modified	6,130	3,180
-8	17/64	.5066 .5018	.395	.2651 .2641	.2440 .2410	.1013 .0993	1/4-28UNJF-3A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

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

HL218 HI-LOK

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

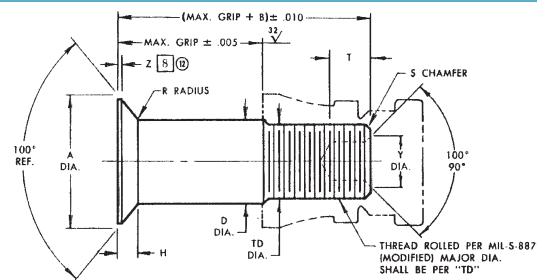


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	R Rad.	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64								NOTE: Use HL62PB6		
-6	7/32	.315 .295	.325	.2182 .2172	.1840 .1810	.025	.055 .045	.025 .015	10-32-UNJF-3A Modified	7,100	2,500
-8	9/32	.412 .387	.395	.2807 .2797	.2440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

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

HL219 HI-LOK

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

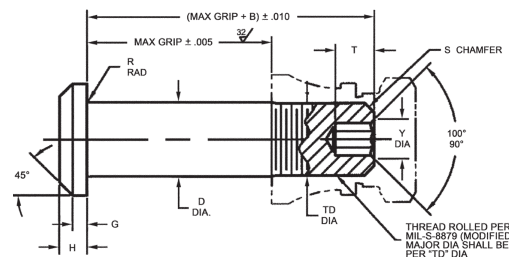


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64						NOTE: Use HL63PB6		
-6	7/32	.3303 .3253	.325	.2182 .2172	.1840 .1810	.0470 .0449	10-32-UNJF-3A Modified	7,100	2,000
-8	9/32	.4260 .4210	.395	.2807 .2797	.2440 .2410	.0610 .0589	1/4-28UNJF-3A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

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

HL220 HI-LOK

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

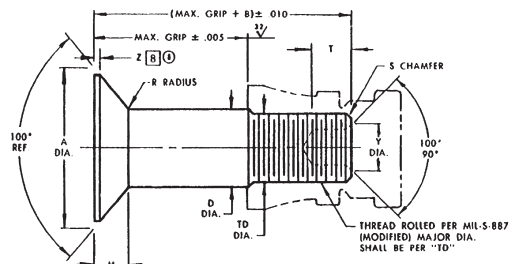


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64							NOTE: Use HL64PB6		
-6	7/32	.390 .370	.325	.2182 .2172	.1840 .1810	.035	.074 .064	10-32-UNJF-3A Modified	7,100	3,180
-8	9/32	.460 .435	.395	.2807 .2797	.2440 .2410	.045	.090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

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

HL221 HI-LOK

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

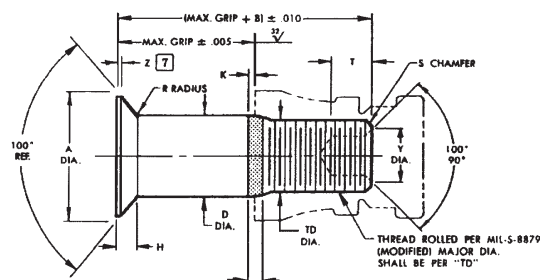


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	13/64						NOTE: Use HL65PB6		
-6	7/32	.3813 .3765	.325	.2182 .2172	.1840 .1810	.0684 .0664	10-32-UNJF-3A Modified	7,100	3,180
-8	9/32	.5066 .5018	.395	.2807 .2797	.2440 .2410	.0948 .0928	1/4-28UNJF-3A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

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

HL325 HI-LOK

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

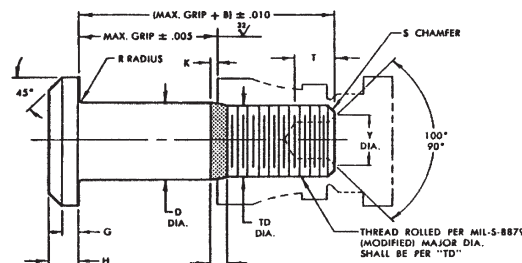


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	F	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.2922 .2874	.312	.1650 .1640	.1595 .1570	.004	.0534 .0514	8-32UNJC-3A Modified	4,560	2,100	-2
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.005	.0688 .0667	10-32-UNJF-3A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

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

HL326 HI-LOK

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

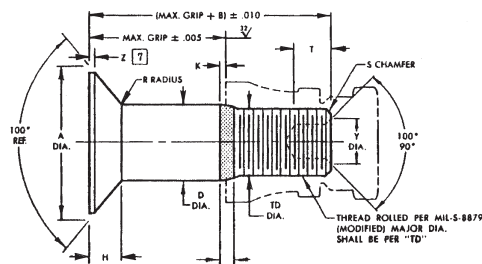


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.322 .306	.312	.1650 .1640	.1595 .1570	.030	.065 .055	8-32UNJC-3A Modified	4,010	2,180	-2
-6	3/16	.377 .357	.325	.1895 .1885	.1840 .1810	.035	.074 .064	10-32-UNJF-3A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

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

HL327 HI-LOK

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

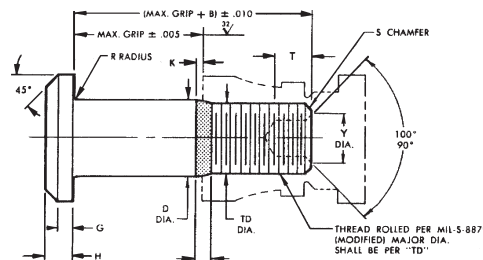


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.3304 .3256	.312	.1650 .1640	.1595 .1570	.0694 .0674	8-32UNJC-3A Modified	4,010	2,180	-2
-6	3/16	.3813 .3765	.325	.1895 .1885	.1840 .1810	.0805 .0785	10-32-UNJF-3A Modified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

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

HL328 HI-LOK

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

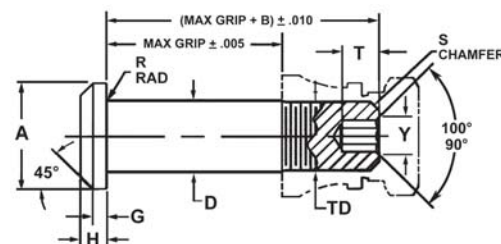


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.	Min. Grip Length
-5	5/32	.262 .242	.312	.1650 .1640	.1595 .1570	.020	.047 .037	8-32UNJC-3A Modified	4,580	2,200	-2
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.025	.055 .045	10-32-UNJF-3A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

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

HL22 HI-LOK

Protruding Shear Head
Aluminum Alloy
45,000 PSI Shear Strength

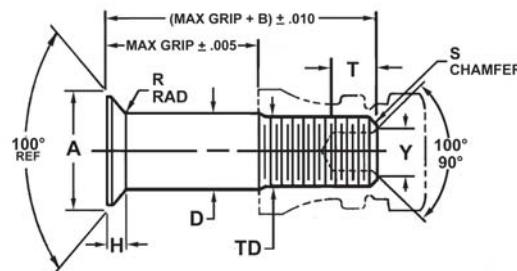


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	G Ref.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.312	.1635 .1625	.1595 .1570	.030	.060 .045	8-32UNJC-3A Modified	1760	940
-6	3/16	.315 .295	.325	.1895 .1885	.1840 .1810	.035	.074 .055	10-32-UNJF-3A Modified	2540	1240

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

HL23 HI-LOK

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

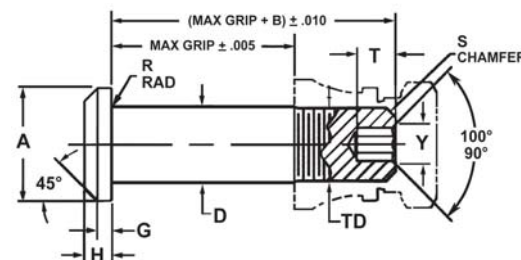


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.2922 .2874	.312	.1635 .1625	.1595 .1570	.0540 .0520	8-32UNJC-3A Modified	1700	860
-6	3/16	.3536 .3486	.325	.1895 .1885	.1840 .1810	.0688 .0667	10-32-UNJF-3A Modified	2540	1150

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

HL30 HI-LOK

Protruding Shear Head
431 Stainless Steel

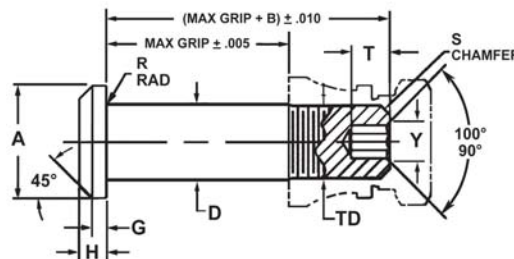


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.262	.325	.1635	.1635	.1595	.020	.047	8-32	5,280	2,000
		.242		.1630	.1625	.1570					
-6	3/16	.315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

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

HL40 HI-LOK

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

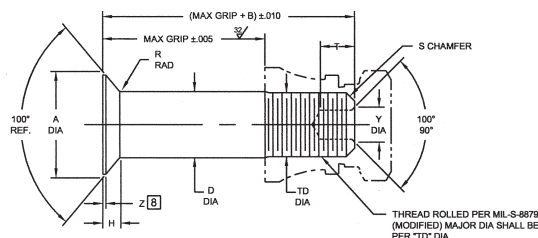


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-4	1/8	.240	.294	.1375	.1375	.1335	.020	.042	6-32	2,840	1,350
		.225		.1370	.1365	.1310		.032			
-5	5/32	.262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

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

HL41 HI-LOK

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

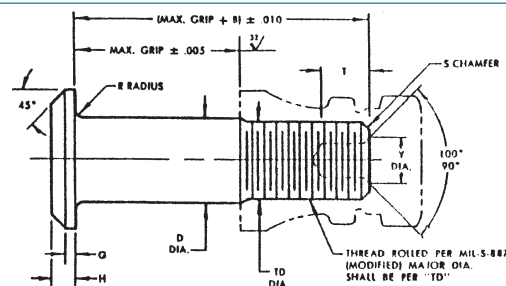


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube					
-4	1/8	.2219 .2171	.294	.1375 .1370	.1375 .1365	.1335 .1310	.0354 .0334	6-32	2,840	950
-5	5/32	.2612 .2564	.312	.1635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

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

HL48 HI-LOK

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

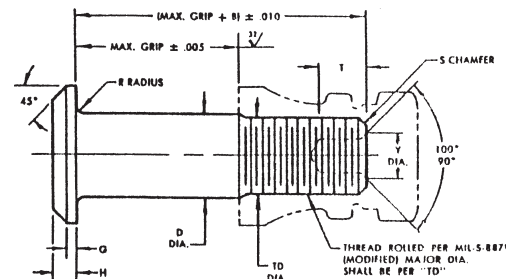


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.322 .308	.312	.1635 .1630	.1635 .1625	.1595 .1570	.030	.060 .055	8-32	4,010	2,180
-6	3/16	.377 .357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

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

HL50 HI-LOK

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

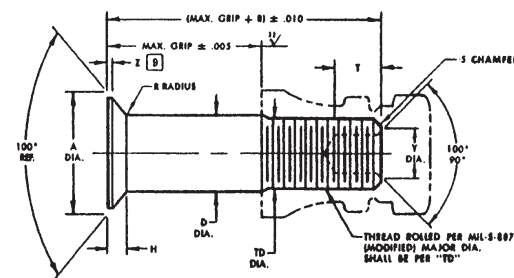


First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.	TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-5	5/32	.262 .242	.342	.1635 .1625	.1595 .1570	.047 .037	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.355	.1895 .1885	.1840 .1810	.055 .045	10-32-UNJF-3A Modified	5,380	2,500

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

HL51 HI-LOK

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



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

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

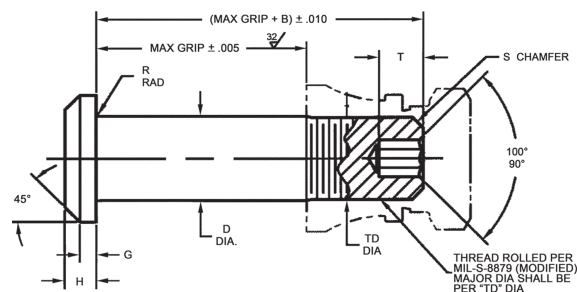
HST10AG HI-LOK

Protruding Shear Head

Titanium, 1/16 Grip Variation

95,000 PSI Shear Min.

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



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.		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	8-32UNJC-3A Modified	4,010	1,940
-6	3/16	.315 .295	.290	.1895 .1890	.1895 .1885	.1840 .1810	.025	.055 .045	10-32UNJF-3A Modified	5,380	2,500

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

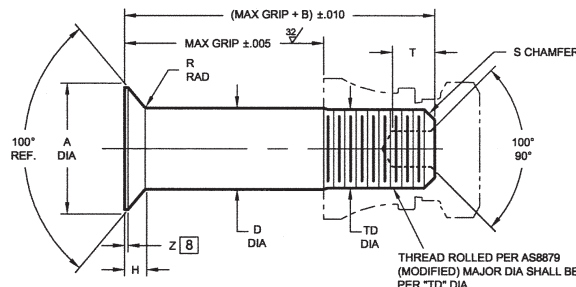
HST11AG HI-LOK

100° Reduced Flush Shear Head

Titanium, 1/16 Grip Variation

95,000 PSI Shear Min.

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



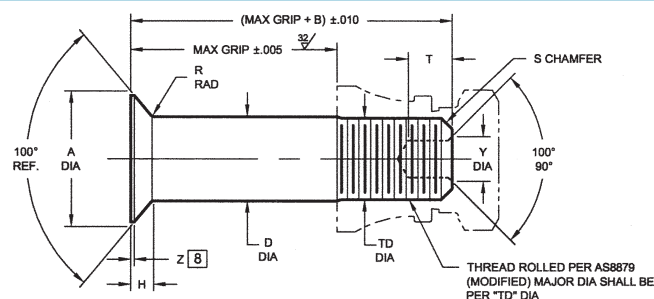
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Dia.		TD Dia.	H	Thread	Double Shear Pounds Min.	Tension Pounds Min.
				w/out lube	w/ lube					
-5	5/32	.2612 .2564	.280	.1635 .1630	.1635 .1625	.1595 .1570	.0410 .0390	8-32UNJC-3A Modified	4,010	1,650
-6	3/16	.3016 .2966	.290	.1895 .1890	.1895 .1885	.1840 .1810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

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

HLT900 HI-LOK

100° Flush Special Shear Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.

“AP” Hi-Kote1 Aluminum coating per
Hi Shear Spec. 294 and cetyl alcohol
lube per Hi Shear spec. 305



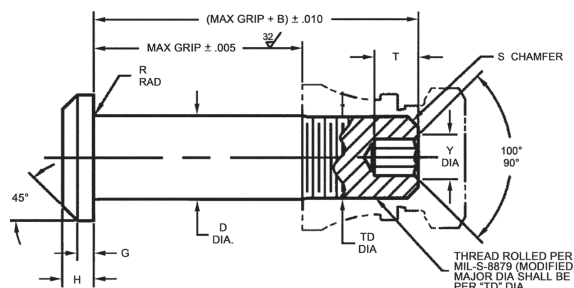
First Dash #	Nom. Dia.	A Dia.	A ¹ Dia.	B Ref.	D Dia.	TD Dia.	H	Z Max	Thread	Double Shear Pounds Min.	Tension Pounds Min.
-6	3/16	.3277	.2963	.341	.1895 .1885	.1840 .1810	.047 .037	.015	10-32UNJF-3A Modified	5,380	2,400
-8	1/4	.4283	.3969	.416	.2495 .2485	.2440 .2410	.055 .045	.015	1/4-28UNJF-3A Modified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

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

HLT912 HI-LOK

Protruding Tension Head
Titanium, 1/16 Grip Variation
95,000 PSI Shear Min.
160,000 PSI Tensile Min.

“AP” Hi-Kote1 Aluminum coating per
Hi Shear Spec. 294 and cetyl alcohol
lube per Hi Shear spec. 305



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

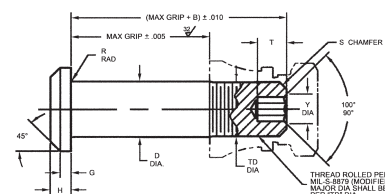
Max Grip	8-32 Thread 5/32 Nominal Diameter HLT912AP5-#	10-32 Thread 3/16 Nominal Diameter HLT912AP6-#
3/16	HLT912AP5-3	HLT912AP6-3
1/4	HLT912AP5-4	HLT912AP6-4
5/16	HLT912AP5-5	HLT912AP6-5
3/8	HLT912AP5-6	HLT912AP6-6
7/16	HLT912AP5-7	HLT912AP6-7
1/2	HLT912AP5-8	HLT912AP6-8

HL10 HI-LOK

Protruding Shear Head
Titanium
95,000 PSI Shear Minimum



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



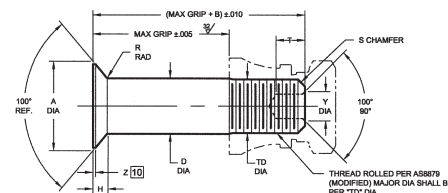
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5	5/32	.262 .242	.312	.1635 .1630	.1635 .1625	.1595 .1570	.020	.047 .037	8-32	4,010	1,940
-6	3/16	.315 .295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

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



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



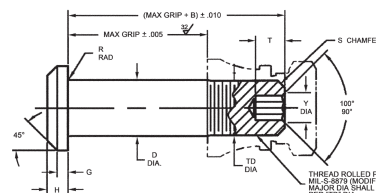
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube					
-5	5/32	.2612 .2564	.312	.1635 .1630	.1635 .1625	.1595 .1570	.041 .039	8-32	4,010	1,650
-6	3/16	.3016 .2966	.325	.1895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

HL110 HI-LOK

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



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



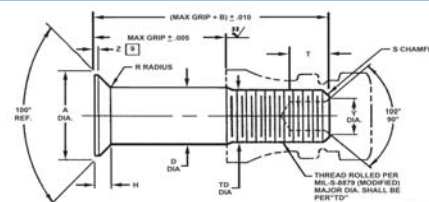
First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	G Ref.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube						
-5						NOTE: Use HL10VAZ6					
-6	13/64	.315 .295	.325	.2026 .2021	.2026 .2016	.1840 .1810	.025	.055 .045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

HL111 HI-LOK

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



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



First Dash #	Nom. Dia.	A Dia.	B Ref.	D Diameter		TD Dia.	H	Thread	Double Shear Pounds min.	Tension Pounds min.
				without coating or solid film lube	with coating or solid film lube					
-5						NOTE: Use HL11VAZ6				
-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	STANDARD SHANK DIAMETER 1/16 GRIP VARIATION
HL11	100º FLUSH SHEAR	TITANIUM	
HL18	PROTRUDING SHEAR	ALLOY STEEL	
HL19	100º FLUSH SHEAR		
HL20	PROTRUDING TENSION		
HL21	100º FLUSH TENSION HEAD		
HL22	PROTRUDING SHEAR HEAD	7075-T6	
HL23	100º FLUSH SHEAR HEAD	ALUMINUM ALLOY	
HL30	PROTRUDING SHEAR HEAD	431 STAINLESS STEEL	
HL40	PROTRUDING SHEAR HEAD	A-286 HIGH TEMP ALLOY	
HL41	100º FLUSH SHEAR HEAD		
HL48	PROTRUDING TENSION HEAD		
HL50	PROTRUDING SHEAR HEAD	ALLOY STEEL	3/32 GRIP VARIATION
HL51	100º FLUSH SHEAR HEAD		1/64 OVERSIZE FOR HL18
HL62	PROTRUDING SHEAR HEAD		1/64 OVERSIZE FOR HL19
HL63	100º FLUSH SHEAR HEAD		1/64 OVERSIZE FOR HL20
HL64	PROTRUDING TENSION HEAD		1/64 OVERSIZE FOR HL21
HL65	100º FLUSH TENSION HEAD		1/64 OVERSIZE FOR HL10
HL110	PROTRUDING SHEAR HEAD	6AL-4V	1/64 OVERSIZE FOR HL11
HL111	100º FLUSH SHEAR HEAD	TITANIUM	1/32 OVERSIZE FOR HL18
HL218	PROTRUDING SHEAR HEAD	ALLOY STEEL	1/32 OVERSIZE FOR HL19
HL219	100º FLUSH SHEAR HEAD		1/32 OVERSIZE FOR HL20
HL220	PROTRUDING TENSION HEAD		1/32 OVERSIZE FOR HL21
HL221	100º FLUSH TENSION HEAD		LEAD IN RADIUS INTERFERENCE APPLICATION
HL325	100º FLUSH SHEAR HEAD		
HL326	PROTRUDING TENSION HEAD		
HL327	100º FLUSH TENSION HEAD		
HL328	PROTRUDING SHEAR HEAD		
HLT900	100º FLUSH SHEAR SPECIALHEAD	6AL-4V	STANDARD SHANK DIAMETER
HLT912	PROTRUDING TENSION HEAD	TITANIUM	1/16 GRIP VARIATION

HI-LOK COLLARS

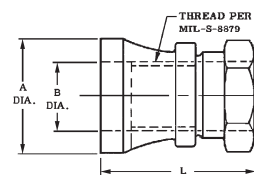
Part #	Material	Application	Description
HL70	2024-T6 ALUMINUM ALLOY	SHEAR	STANDARD COLLAR FOR HL18 AND HL19
HL75	303 STAINLESS STEEL	TENSION	SELF ALIGNING COLLAR ASSEMBLY
HL77	2024-T6 ALUMINUM ALLOY	SHEAR	FOR USE ON STANDARD SIZE ALUMINUM ALLOY PINS
HL79	2024-T6 ALUMINUM ALLOY	SHEAR	FOR USE ON STANDARD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

RECOMMENDED COLLARS

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

HL70 COLLAR

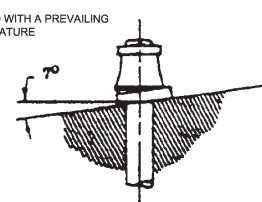
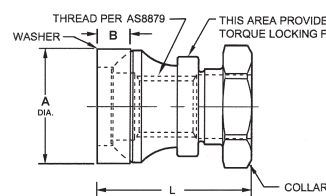
Shear Application
Aluminum Alloy



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

HL75 COLLAR

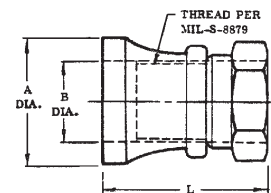
Self-Aligning Collar Assembly
Tension Application
303 Stainless Steel



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

HL77 COLLAR

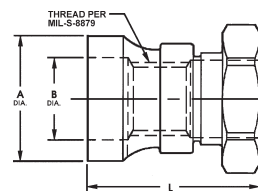
Shear Application
Aluminum Alloy



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

HL78 COLLAR

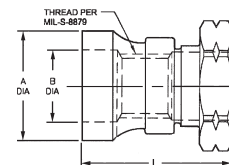
Tension Application
A-286 High Temp. Alloy
1/16th Grip Variation



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

HL79 COLLAR

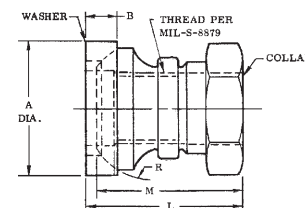
Shear Application
Aluminum Alloy
For Use on Standard and
1/64 Oversized Hi-Loks



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

HL82 COLLAR

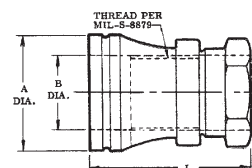
Shear Application
Self-Aligning Collar Assembly
Aluminum Collar, Stainless Washer
APBW Indicates Collar Washer Combination
CAD II Plated Washer



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

HL84 COLLAR

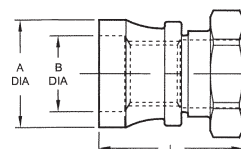
Shear Application
Aluminum Alloy
For Use on 1/32 Oversized Hi-Loks



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

HL86 COLLAR

Tension Application
303 Stainless Steel

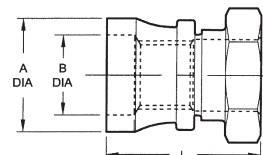


HL86	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC-3B	.287 .283	.173 .166	.447 .427	2,300	30-40
-6	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	2,750	40-50
-8	1/4	1/4-28UNJF-3B	.412 .408	.261 .252	.552 .532	5,000	115-130
-10	5/16	5/16-24UNJF-3B	.518 .512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

HL87 COLLAR

Tension Application
303 Stainless Steel
For Use on 1/64 Oversized Hi-Loks

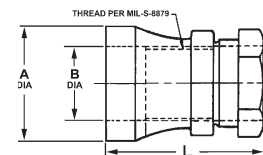
NOTE: For HL87-5 Diameter Pin, Use HL86-5



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

HL90 COLLAR

Shear Application
Aluminum Alloy



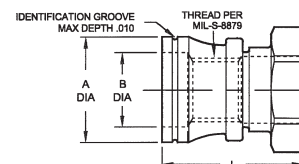
HL90	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
LP5A	5/32	8-32-UNJC-3B	.292 .288	.173 .166	.447 .427	1,400	15-25
LP6A	3/16	10-32UNJF-3B	.307 .303	.200 .192	.457 .437	1,600	25-35

HL93 COLLAR

Tension Application

303 Stainless Steel

For Use on 1/32 Oversize Hi-Loks



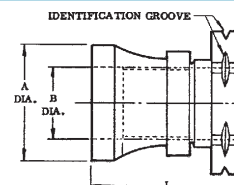
HL93	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-6	7/32	10-32-UNJF-3B	.332 .328	.227 .223	.457 .437	2,750	40-50
-8	9/32	1/4-28UNJF-3B	.427 .423	.290 .286	.552 .532	5,000	115-130
-10	11/32	5/16-24UNJF-3B	.578 .572	.353 .347	.672 .652	8,300	200-250

HL94 COLLAR

Shear Application

303 Stainless Steel

For Use on Standard
and 1/64 Oversized Hi-Loks



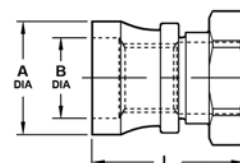
HL94	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-5	5/32	8-32-UNJC-3B	.292 .288	.173 .166	.447 .427	2,300	15-25
-6	13/64	10-32UNJF-3B	.322 .318	.212 .208	.457 .437	2,750	25-35
-8	17/64	1/4-28UNJF-3B	.422 .418	.272 .268	.552 .532	5,000	60-80
-10	21/64	5/16-24UNJF-3B	.538 .532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

HL97 COLLAR

Shear Application

A-286 High Temp. Alloy

1/16th Grip Variation

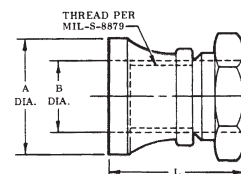


HL97	PIN. NOM. DIA.	THREAD	A DIA.	B DIA.	L	UTS LBS. MIN.	TORQUE OFF IN. LBS.
-4	1/8	6-32 UNJC-3B	.240 .235	.147 .143	.420 .400	1,350	10-20
-5	5/32	8-32 UNJC-3B	.287 .283	.173 .166	.447 .427	1,940	15-25
-6	3/16	10-32UNJF-3B	.307 .303	.200 .195	.457 .437	2,500	25-35

HLT77 COLLAR

Shear Application

Aluminum Alloy



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

CAMLOC

2600 Series

Protruding Head Carbon Steel

MONADNOCK

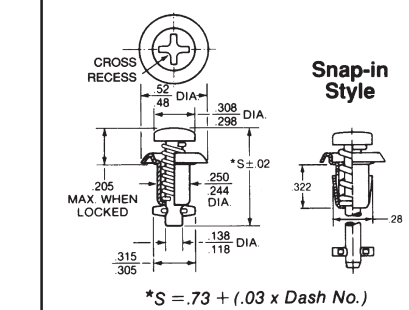
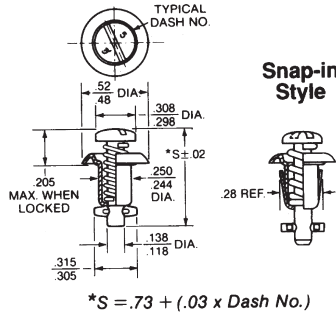
Slotted 1126000-#

Phillips 1126004-#

* see Stainless Steel (below) for Winged Stud



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



CAMLOC

2600 Series

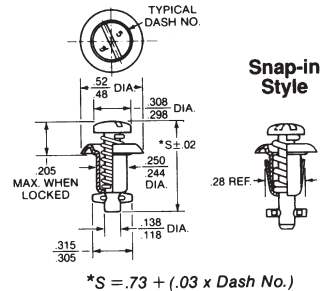
Protruding Head Stainless Steel

MONADNOCK

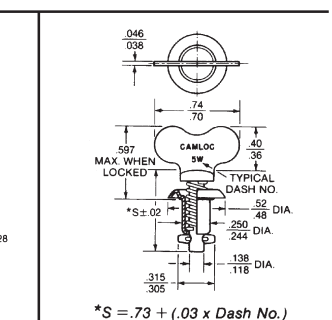
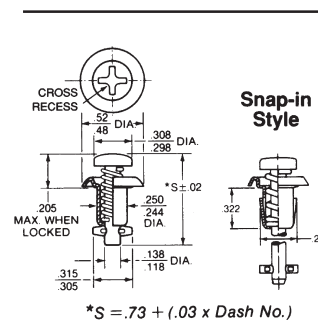
Slotted 1126007-#

Phillips 1126008-#

Winged 1126014-#



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

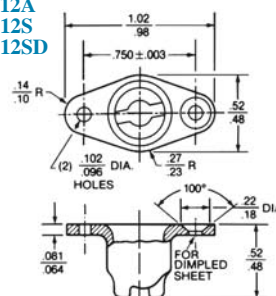


CAMLOC RECEPTACLE FOR 2600/2700 SERIES

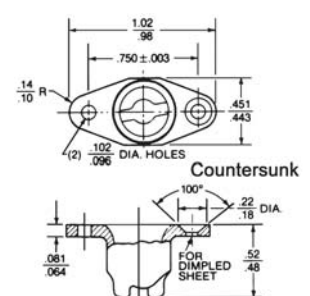
Monadnock with same Fit, Form & Function
may be substituted for Camloc if cost effective

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

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



212-12N
Narrow Width



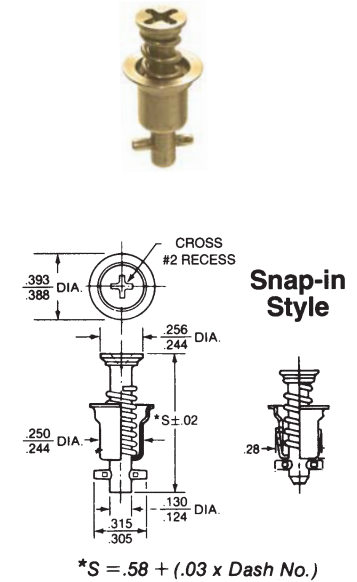
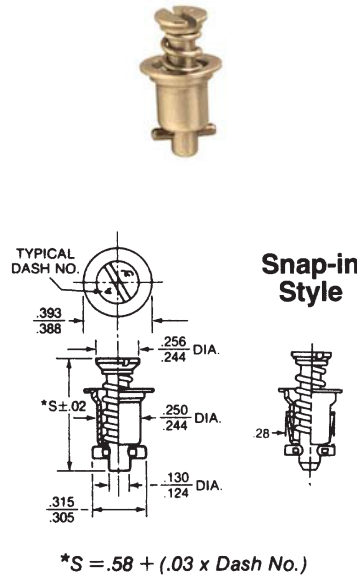
CAMLOC 2700 Series

Flush Head Carbon Steel

MONADNOCK

Slotted 1127000-#, Phillips 1127004-#

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



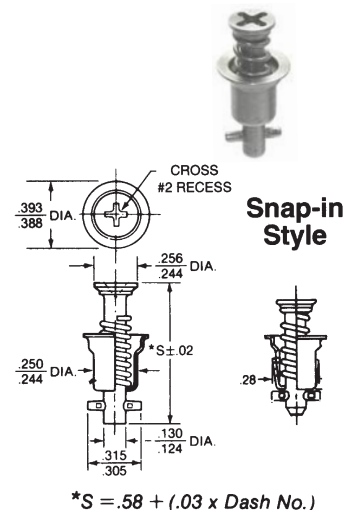
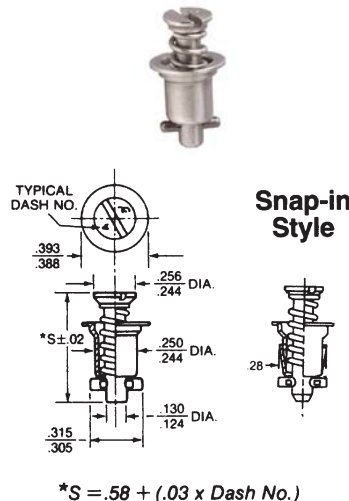
CAMLOC 2700 Series

Flush Head Stainless Steel

MONADNOCK

Slotted 1127003-#, Phillips 1127009-#

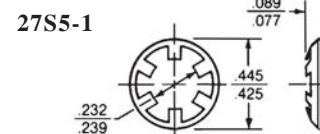
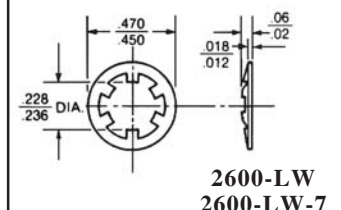
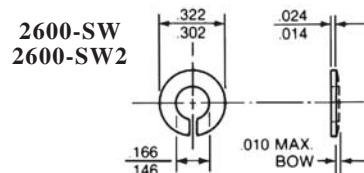
Total Panel Thickness Using 212-12 Receptacle	Slotted	Phillips
	Part #	Part #
.060-.089	2700-2S	27S3-2S
.090-.119	2700-3S	27S3-3S
.120-.149	2700-4S	27S3-4S
.150-.179	2700-5S	27S3-5S
.180-.209	2700-6S	27S3-6S
.210-.239	2700-7S	27S3-7S
.240-.269	2700-8S	27S3-8S
.270-.299	2700-9S	27S3-9S
.300-.329	2700-10S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



CAMLOC RETAINING RINGS FOR 2600/2700 SERIES

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

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



CAMLOC 4002 Series

Heavy Duty

Carbon Steel & Stainless Steel

Monadnock Equivalent Part #'s

Carbon Steel

Slotted 1142000-#

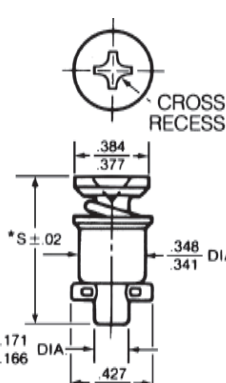
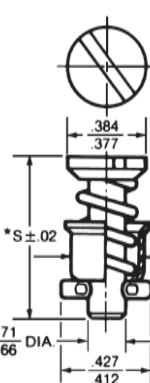
Phillips 1142005-#

Stainless Steel

Slotted 1142002-#

Phillips 1142012-#

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

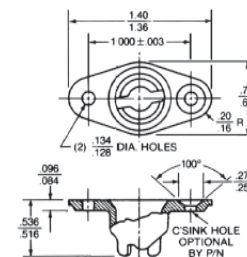


$$*S = .63 + (.03 \times \text{Dash No.})$$

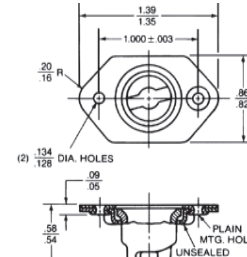
CAMLOC RECEPTACLE FOR 4002 SERIES

Silicon Bronze

Part #	Rivet Hole	Material	Monadnock #
214-16	Plain	Silicone	1142700
214-16D	Countersunk	Bronze, Cad Pltg.	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



214-16



244-16

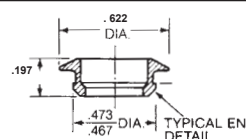
CAMLOC GROMMETS FOR 4002 SERIES

Heavy Duty Series

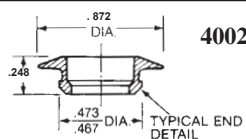
Monadnock with same Fit, Form & Function
may be substituted for Camloc if cost effective

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

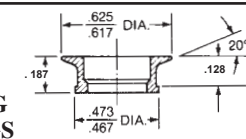
4002-N
4002-NS
4002-O
4002-OS



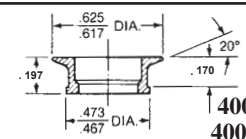
4002-N3



4002-G
4002-GS



4002-H
4002-HS

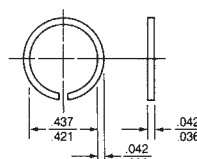


CAMLOC RETAINING RINGS FOR 4002 SERIES

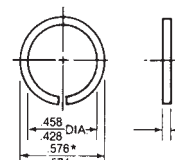
Heavy Duty Series

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

R4G
40G26-1

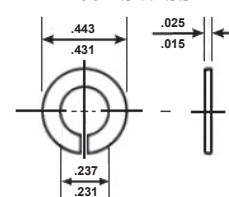


R4T

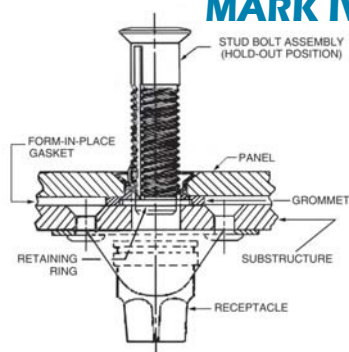


*WHEN MOUNTED ON
.4570 DIA. MANDREL

4002-SW
4002-SW-SS



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

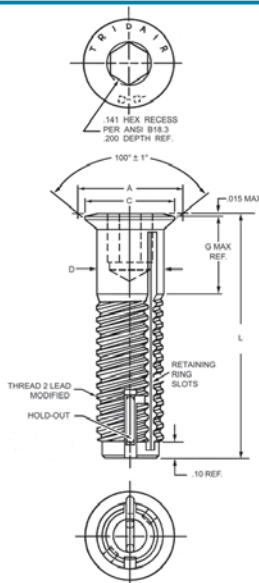
CA21037 - 4 - 10 HS

- 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	.505	.3745 .3730

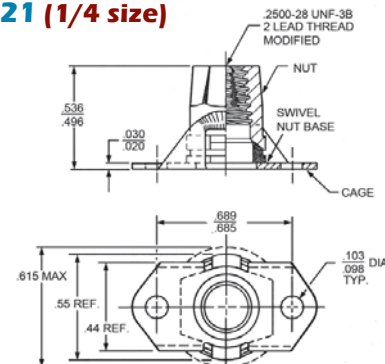
Max. / Min.

Max. / Min.

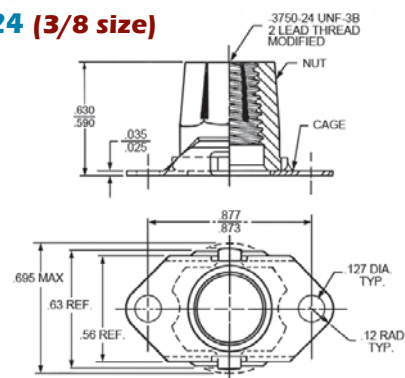


FLAT BEAM NUT RECEPTACLES

CA21021 (1/4 size)



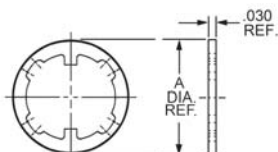
CA21024 (3/8 size)



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

RETAINING RING

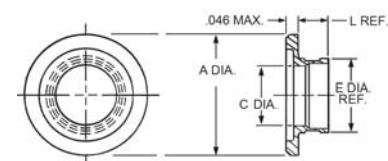
CA21037-#R



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

GROMMET

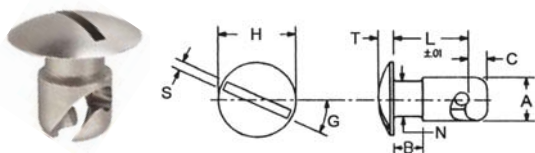
CA21038-#-#



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

SLOTTED HEAD

DZUS Stud

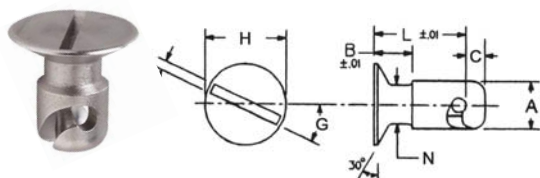


Alternate #
121J-#-Z3CT

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

FLUSH HEAD

DZUS Stud

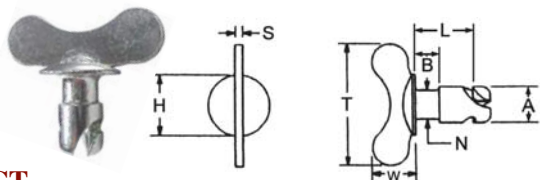


Alternate #
126J-#-Z3CT

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

WING HEAD

DZUS Stud



Alternate #
121J-W#-Z3CT

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

FULL GROMMETS



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

SPRING RECEPTACLES



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

HALF GROMMET



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

RETAINING SPRING



Part #	Stud
SX520SS	3
SX523SS	4
SX510SS	5

RETAINING RING



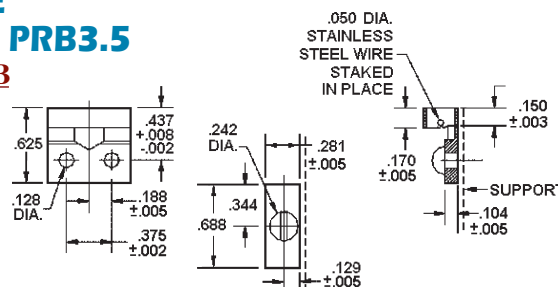
Part #	Stud
SR3SS	3
SR4SS	4
SR5SS	5

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

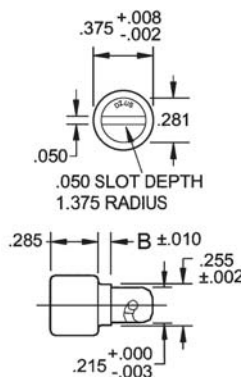
Alternate # 3518-B



PFSC 35 STUD ASSEMBLY

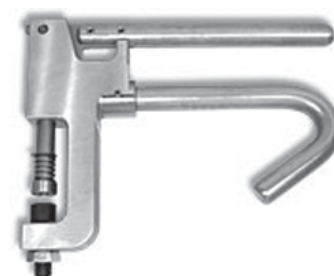


Stud Assembly	Alternate	Panel Thick	B Dim
PFSC35-37A	3506-SC37A-Z3CT	.050 - .059	.070
PFSC35-38A	3506-SC38A-Z3CT	.060 - .069	.080
PFSC35-38AZBB	3506-SC38A-Z3BT	.060 - .069	.080
PFSC35-39A	3506-SC39A-Z3CT	.070 - .079	.090
PFSC35-40A	3506-SC40A-Z3CT	.080 - .089	.100
PFSC35-44A	3506-SC44A-Z3CT	.120 - .129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



TP35AHT

Hand-squeeze tool for PFSC35 pre-assembled fasteners.



PR35 RIGHT-ANGLE STRIP

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

Typical Studs

PFSC35-#

Alt. # 3506-SC#A-C3C

PF35-#

Alt. # 3506-38-C3C

3 Foot Length

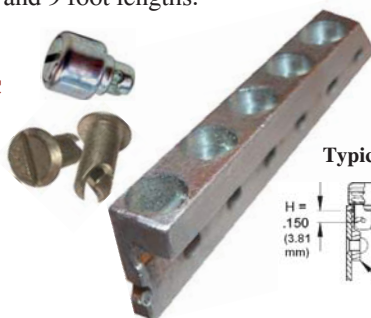
PR35SX3

Alt. # 3590-S3

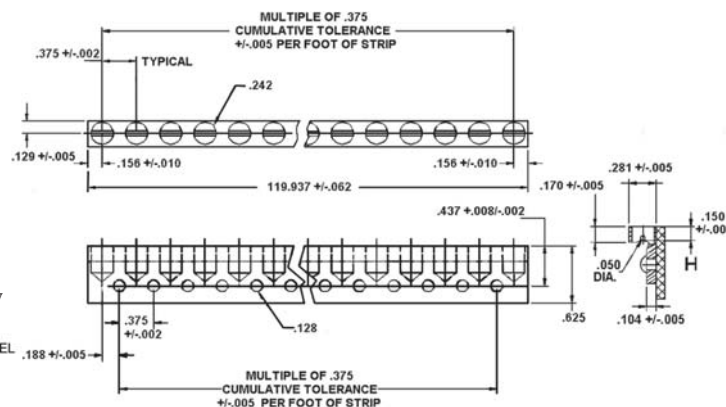
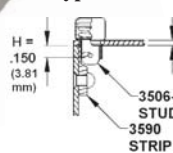
5 Foot Length

PR35SX5

Alt. # 3590-S5



Typical Assembly



PR35-1 FLAT STRIP

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

Flat Strip

3 Foot Length

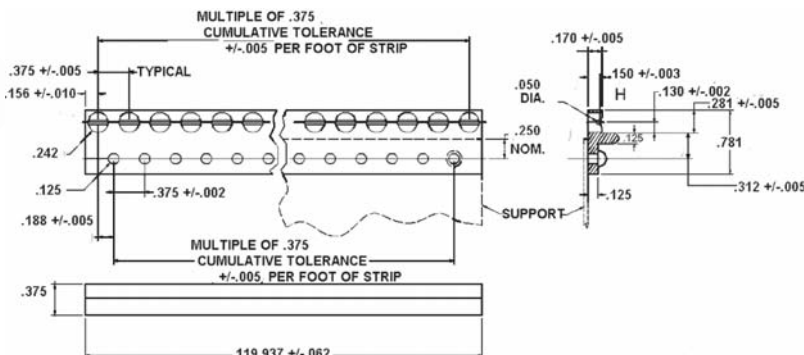
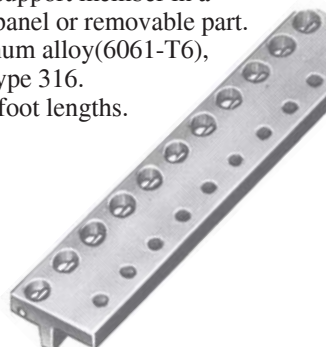
PR35-1S3

Alt. # 3595-S3

5 Foot Length

PR35-1S5

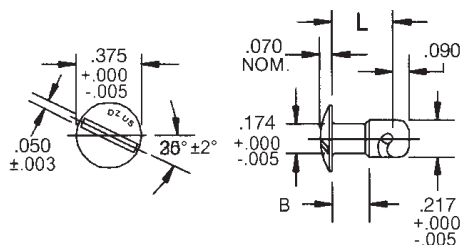
Alt. # 3595-S5



DZUS A3.5T Series (A35T, A3-1/2T)

T Total Thickness	Stud Shank Dimensions		Stud A3.5
	L	B	
.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

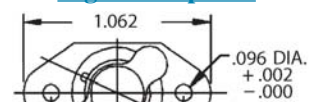


Alternate Part

2351-20-##-Z3CT (Zinc Trivalent Chromate)

2351-20-##-C3C (Cadmium Electroplated)

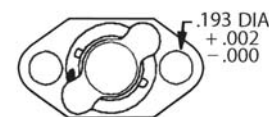
Rigid Receptacle



R35 (Class B)

Alternate # - 2350-18-Z3CT

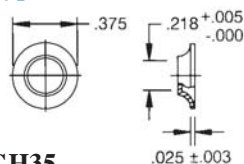
Floating Receptacle



RF35 (Class A)

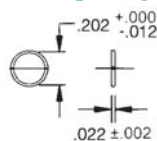
Alternate # - 2350-18F-ZCT

Type GH Half Grommet



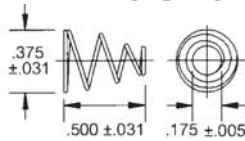
GH35

Snap Ring



SR35SS

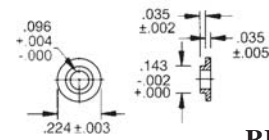
Retaining Spring



SX551SS

Spacer

2 Included with RF35 Receptacle

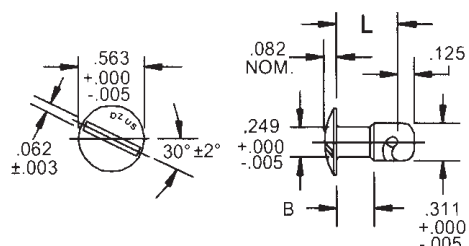


RF35-5

DZUS A5T Series

T Total Thickness	Stud Shank Dimensions		Stud A5
	L	B	
.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

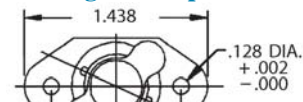


Alternate Part

2501-20- ## -Z3CT (Zinc Trivalent Chromate)

2501-20- ## -C3C (Cadmium Electroplated)

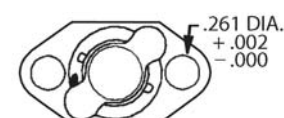
Rigid Receptacle



R5 (Class B)

Alternate # - 2500-18-Z3CT

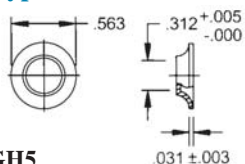
Floating Receptacle



RF5 (Class A)

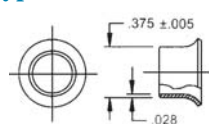
Alternate # - 2500-18F-Z3CT

Type GH Half Grommet



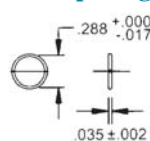
GH5

Type GA Full Grommet



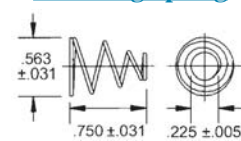
GA5 Series

Snap Ring



SR5SS

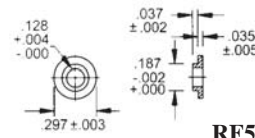
Retaining Spring



SX510SS

Spacer

2 Included with RF5 Receptacle



RF5-5

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

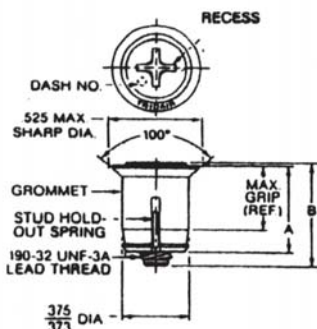


TP835E

TRIDAIR STRUCTURAL PANEL FASTENERS

FX10-1558 SERIES

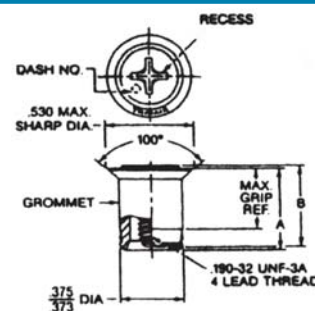
Flush Head Style



Basic Stud Assembly Part No.	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

FX10-15010 SERIES

Fully Retractable
Flush Head Style



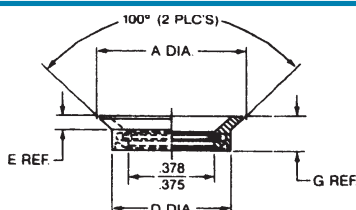
Stud Assembly Part No.	A Ref.	B Ref.	Grip Range		Weight lbs/ ea.
			Min	Max	
FX10-15010-1P	.42	.41	.230	.290	.013

FX10-15030-1P

CORROSION RESISTANT STEEL

HOLD-OUT GROMMET FX10-15009 SERIES

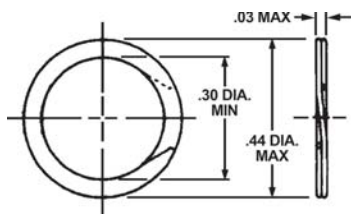
Corrosion Resistant



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

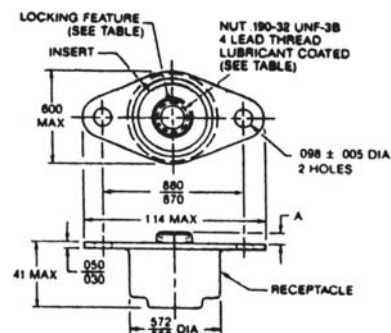
RETAINING RING FX10-1525 CORROSION RESISTANT

Part No.
FX10-1525



RECEPTACLE ASSEMBLIES

FX10-1502 SERIES

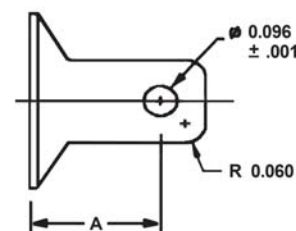


Locking Feature	Part No.	A* Ref.	Lubricant Coating
High** Prevailing Torque Elliptical	FX10-1502	None	Per MIL-L-25681

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 Number	Material
99836	Steel
SK99836S	Stainless

RECEPTACLE



Steel Part No.
99947P130

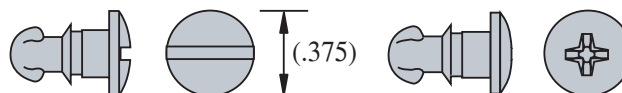
GROMMET



Steel Part No.
295250-1

SOUTHCO

No. 82 Series
1/4 Turn Fasteners
Oval Head



DACROTIZED		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

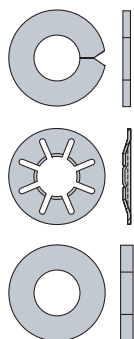
Total Material Thickness	Stud Size
.090-.109	100
.110-.129	120
.130-.149	140
.150-.169	160
.170-.189	180
.190-.209	200
.210-.229	220

RETAINERS

82-32-101-20
Split Ring - Stainless

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

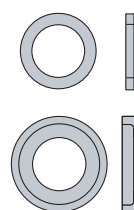
82-32-301-12
Thermoplastic - Black



WASHERS

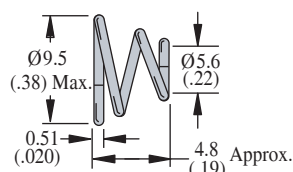
82-43-201-38
Black Synthetic Rubber

82-46-101-39
Thermoplastic Cupped Wear Washer



EJECTOR SPRING

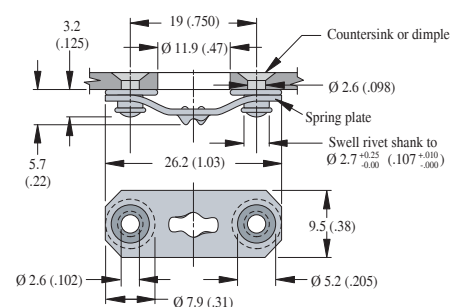
43-13-1-24
Ejector Spring



LEAF SPRING RECEPTACLES

For riveting
- with base

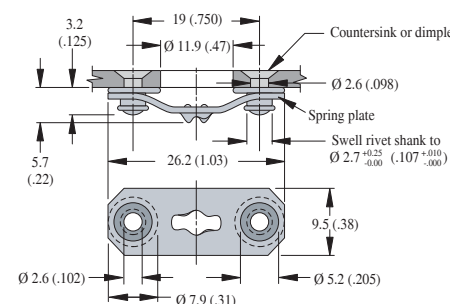
82-35-302-15



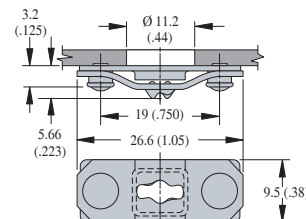
For riveting
- without base

Steel
82-35-295-15

Stainless
82-35-295-20



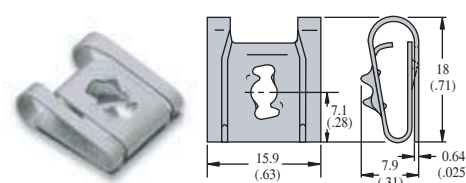
For welding
82-35-303-15



Rivet must not melt over onto spring.

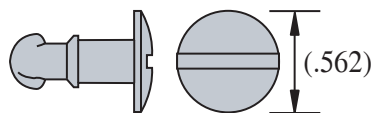
CLIP-ON RECEPTACLE

82-47-113-15
Steel



SOUTHCO

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



DACROTIZED	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

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

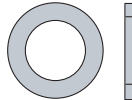
85-34-101-20
Split Ring, Stainless



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

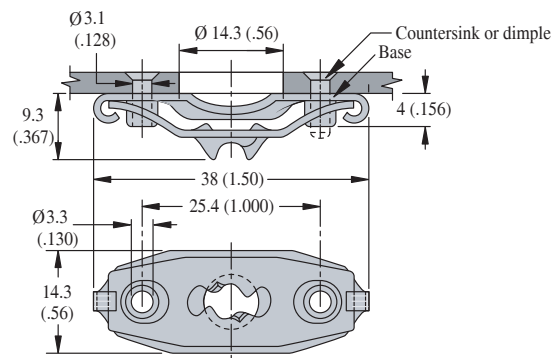


85-34-301-12
Nylon, Black

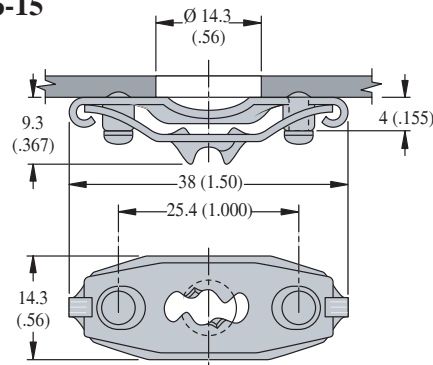


LEAF SPRING RECEPTACLES

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

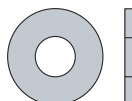


For welding
85-35-296-15

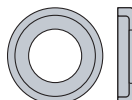


WASHERS

85-43-201-38
Sealing Washer



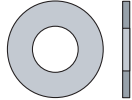
85-46-101-39
Cupped Natural Wear Washer



85-46-101-41
Cupped Black Wear Washer

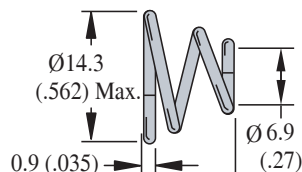


85-46-103-39
Flat Wear Washer



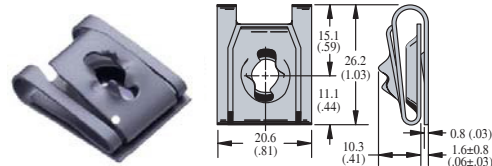
EJECTOR SPRING

14-18-150-24/5
Ejector Spring



CLIP-ON RECEPTACLE

85-47-101-15
Steel



AN960 / NAS1149 CROSS REFERENCE CHART

CARBON STEEL		CORROSION RESISTANT STEEL		ANODIZED ALUMINUM	
AN960	NAS1149	AN960	NAS1149	AN960	NAS1149
2L	FN216P	C2L	CN216R	JD2L	DN216J
2	FN232P	C2	CN232R	JD2	DN232J
3L	FN316P	C3L	CN316R	JD3L	DN316J
3	FN332P	C3	CN332R	JD3	DN332J
4L	FN416P	C4L	CN416R	JD4L	DN416J
4	FN432P	C4	CN432R	JD4	DN432J
5	FN542P	C5	CN542R	JD5	DN542J
6L	FN616P	C6L	CN616R	JD6L	DN616J
6	FN632P	C6	CN632R	JD6	DN632J
8L	FN816P	C8L	CN816R	JD8L	DN816J
8	FN832P	C8	CN832R	JD8	DN832J
10L	F0332P	C10L	C0332R	JD10LL	D0316J
10	F0363P	C10	C0363R	JD10L	D0332J
416L	F0432P	C416L	C0432R	JD10	D0363J
416	F0463P	C416	C0463R	JD416L	D0416J
516L	F0532P	C516L	C0532R	JD416	D0463J
516	F0563P	C516	C0563R	JD516L	D0516J
616LL	F0616P	C616L	C0632R	JD516	D0563J
616L	F0632P	C616	C0663R	JD616L	D0616J
616	F0663P	C716L	C0732R	JD616	D0663J
716L	F0732P	C716	C0763R	JD716L	D0716J
716	F0763P	C816L	C0832R	JD716	D0763J
816L	F0832P	C816	C0863R	JD816L	D0816J
816	F0863P	C916L	C0932R	JD816	D0863J
916L	F0932P	C916	C0963R	JD916L	D0916J
916	F0963P	C1016L	C1032R	JD916	D0963J
1016L	F1032P	C1016	C1063R	JD1016L	D1016J
1016	F1063P	C1216L	C1232R	JD1016	D1063J
1216L	F1232P	C1216	C1290R	JD1216L	D1216J
1216	F1290P	C1416L	C1432R	JD1216	D1290J
1416L	F1432P	C1416	C1490R	JD1416L	D1416J
1416	F1490P	C1616L	C1632R	JD1416	D1490J
1616L	F1632P	C1616	C1690R	JD1616L	D1616J
1616	F1690P	---	---	JD1616	D1690J
ALUMINUM ALLOY		ANODIZED ALUMINUM ELECTRICALLY NONCONDUCTIVE		CORROSION RESISTANT BLACK OXIDE COATING	
AN960	NAS1149	AN960	NAS1149	AN960	NAS1149
D2L	DN216H	KD2L	DN216K	XC2L	CN216B
D2	DN232H	KD2	DN232K	XC2	CN232B
D3L	DN316H	KD3L	DN316K	XC3L	CN316B
D3	DN332H	KD3	DN332K	XC3	CN332B
D4L	DN416H	KD4L	DN416K	XC4L	CN416B
D4	DN432H	KD4	DN432K	XC4	CN432B
D5	DN542H	KD5	DN542K	XC5	CN542B
D6L	DN616H	KD6L	DN616K	XC6L	CN616B
D6	DN632H	KD6	DN632K	XC6	CN632B
D8L	DN816H	KD8L	DN816K	XC8L	CN816B
D8	DN832H	KD8	DN832K	XC8	CN832B
D10L	D0316H	KD10LL	D0316K	XC10LL	C0316B
D10	D0363H	KD10L	D0332K	XC10L	C0332B
D416L	D0416H	KD10	D0363K	XC10	C0363B
D416	D0463H	KD416L	D0416K	XC416L	C0432B
D516L	D0516H	KD416	D0463K	XC416	C0463B
D516	D0563H	KD516L	D0516K	XC516L	C0532B
D616L	D0616H	KD516	D0563K	XC516	C0563B
D616	D0663H	KD616L	D0616K	XC616L	C0632B
D716L	D0716H	KD616	D0663K	XC616	C0663B
D716	D0763H	KD716L	D0716K	XC716L	C0732B
D816L	D0816H	KD716	D0763K	XC716	C0763B
D816	D0863H	KD816L	D0816K	XC816L	C0832B
D916L	D0916H	KD816	D0863K	XC816	C0863B
D916	D0963H	KD916L	D0916K	XC916L	C0932B
D1016L	D1016H	KD916	D0963K	XC916	C0963B
D1016	D1063H	KD1016L	D1016K	XC1016L	C1032B
D1216L	D1216H	KD1016	D1063K	XC1016	C1063B
D1216	D1290H	KD1216L	D1216K	XC1216L	C1232B
D1416L	D1416H	KD1216	D1290K	XC1216	C1290B
D1416	D1490H	KD1416L	D1416K	XC1416L	C1432B
D1616L	D1616H	KD1416	D1490K	XC1416	C1490B
D1616	D1690H	KD1616L	D1616K	---	---
---	---	KD1616	D1690K	---	---

AN960

Airframe Washer, (Per 100)



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

(ALL AN960 SERIES WASHERS SOLD BY ECAS ARE DUALY CERTIFIED TO BOTH AN960 AND NAS1149 SERIES)

AN960

Airframe Washer,
Aluminum (Per 100)



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

AN960

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



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

AN960

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



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

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

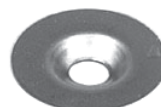
High Strength Washer



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

CA3105

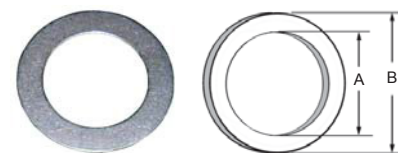
Fairing Washer Assembly
Non-structural



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

MS9549

Flat Washer
Corrosion Resistant
Steel, AMS 5510



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

NAS390 NAS391

Interior Finishing Washer



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

MS35333 (AN936A)

Lockwasher, Internal Tooth
"P" Designates Cad II Plating



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

MS35335 (AN936B)

Lockwasher
External Tooth



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

MS35338 (AN935)

Split Washer
"M" Indicates Zinc Yellow



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

TINNERMAN WASHER

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



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

INTERIOR FINISHING WASHER 601-# & 603-#



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

AN975

Taper Pin Washer



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

MS9276

Key Washer
Corrosion Resistant,
180° Locking



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

MS9581

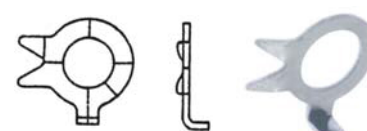
Key Washer
Corrosion Resistant,
90° Locking



Diameter	MS9581
.190	-09
.250	-10

MS9582

Key Washer
Corrosion Resistant,
270° Locking



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

MS9320

Nickel Cad Plated
Steel Washer



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

MS9321

Corrosion Resistant
Washer



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

NAS549

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



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

A1638-5

Vulcanized Fiber
Bone White



To Fit Dia.	Thickness
.190	.031

140-001-#

Aluminum Washer



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

NAS620

Flat Washer
Thickness .032 / .016(L)



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

NAS1252

Aluminum Washer

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



NAS1515

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



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

NAS1197

Aluminum Alloy Washer

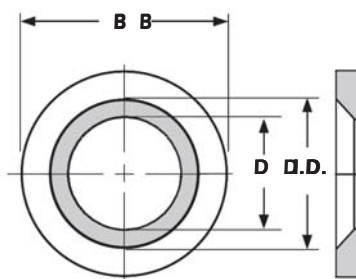
I.D.	NAS1197	THICKNESS	NAS1197	THICKNESS
#6	-6	.032	-6L	.016
#8	-8	.032	-8L	.016
#10	-10	.063	-10L	.016
1/4	-416	.063	-416L	.016
5/16	-516	.063	-516L	.016
3/8	-616	.063	-616L	.016



MS21206C

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

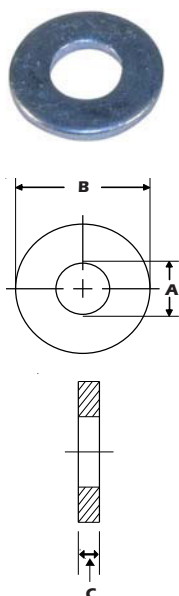
Nominal Size	MS21206	B Max	D Max	I.D. Max
#10	C3	.372	.195	.290
1/4	C4	.470	.255	.350
5/16	C5	.573	.318	.412
3/8	C6	.679	.380	.507
1/2	C8	.898	.505	.632



MS15795

Flat Washer
Corrosion Resistant Steel

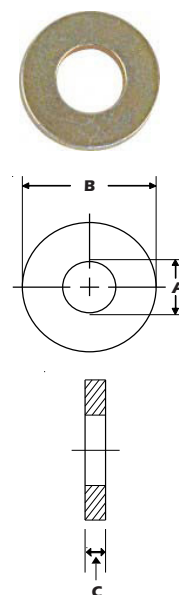
MS15795-	A	B	C
801	.078	.188	.020
802	.094	.250	.020
803	.125	.250	.022
804	.125	.312	.032
805	.156	.312	.035
806	.156	.375	.049
845	.172	.281	.031
856	.172	.312	.031
807	.188	.375	.049
841	.188	.438	.049
846	.203	.375	.020
847	.203	.562	.032
849	.203	.625	.040
808	.219	.438	.049
842	.219	.500	.049
809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



MS27183

Flat Washer
Steel (Cad II Plating)

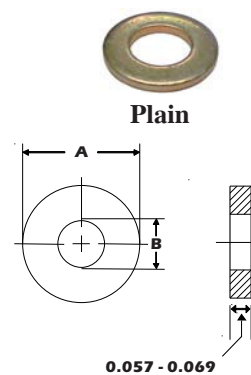
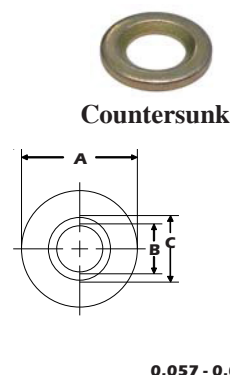
MS27183-	A	B	C
3	.125	.250	.022
4	.125	.312	.032
5	.156	.312	.035
43	.156	.250	.016
6	.156	.375	.049
7	.188	.375	.049
8	.219	.438	.049
42	.219	.500	.049
9	.250	.562	.065
10	.281	.625	.065
11	.312	.734	.065
12	.344	.688	.065
13	.375	.875	.083
14	.406	.812	.065
15	.438	1.0	.083
16	.469	.922	.065
17	.500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



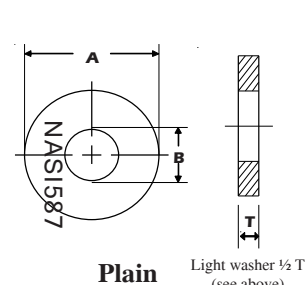
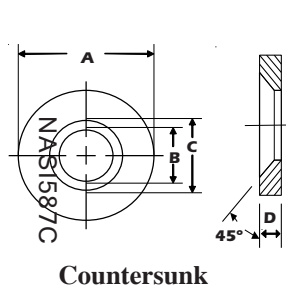
NAS1587

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



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).

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



Light washer 1/2 T
(see above)

PLUG BUTTON

OLD NAS451-#

1010 STEEL

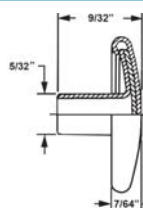


Part #	For Your Reference Only NAS451-#	Hole	Panel Thickness	Head Diameter	Head Thickness	# of Prongs
SS48192	NAS451-7	0.375	.037-.078	0.500	0.062	6
SS51003	NAS451-8	0.391	.078-.093	0.500	0.062	
SS51043	NAS451-10	0.438	.037-.047	0.656	0.078	
SS51051	NAS451-11	0.469	.083-.125	0.625	0.062	8
SS48152	NAS451-43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

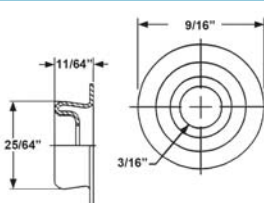
MS27980 SNAP FASTENERS

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

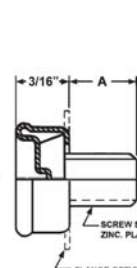
MS27980-1 Button



MS27980-7 Stud

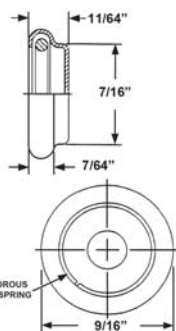


Stud - Machine Screw Base



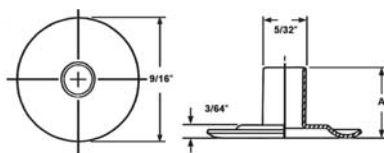
Part #	A Dim.	Size
MS27980-12	5/16"	1
MS27980-13	3/8"	2
MS27980-14	5/8"	3

MS27980-6 Socket



Eyelets

Size 2 & 3 Not avail. in brass



Stud-Eyelet Combo



**** When ordering Snap Fasteners ****

At the end of the part # place a:

B for Gov't Black finish

N for Nickel Plate finish

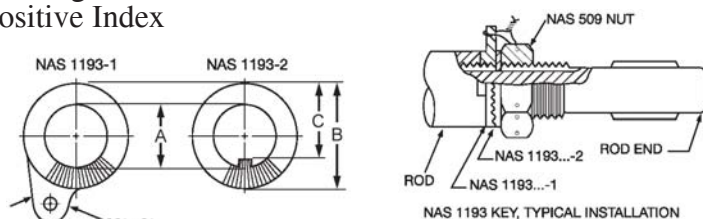
Leave blank for Brass finish

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

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

NAS1193

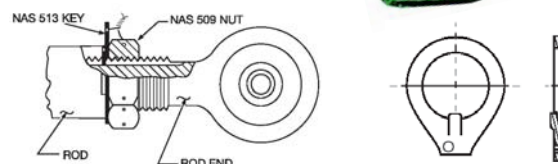
Locking Device
Positive Index



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

NAS513

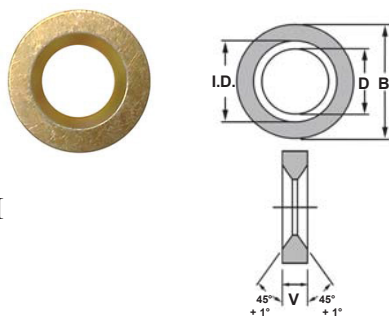
Washer-Rod End
Locking



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

MS14155

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



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

MS16624

Retaining Rings

MS16624

MS16625



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

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

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)



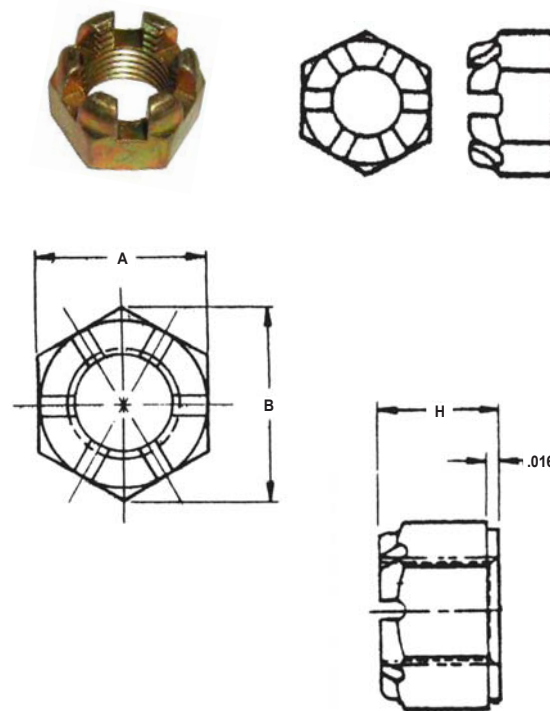
Diameter	Length	CARBON STEEL		CORRISION RESISTANT STEEL	
		MS24665	AN380	MS24665	AN381
1/32	---	---	---	18	1-4
	1/2"	5	1-2	22	1-8
	3/4"	7	1-3	24	1-12
	1"	9	1-4	26	1-16
	1-1/4"	10	1-5	27	1-20
	1-1/2"	---	1-6	28	1-24
3/64	1/4"	65	---	82	---
	1/2"	69	---	86	15-8
	3/4"	71	---	88	15-12
	1"	73	---	90	15-16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

AN310

Castellated Nut

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

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

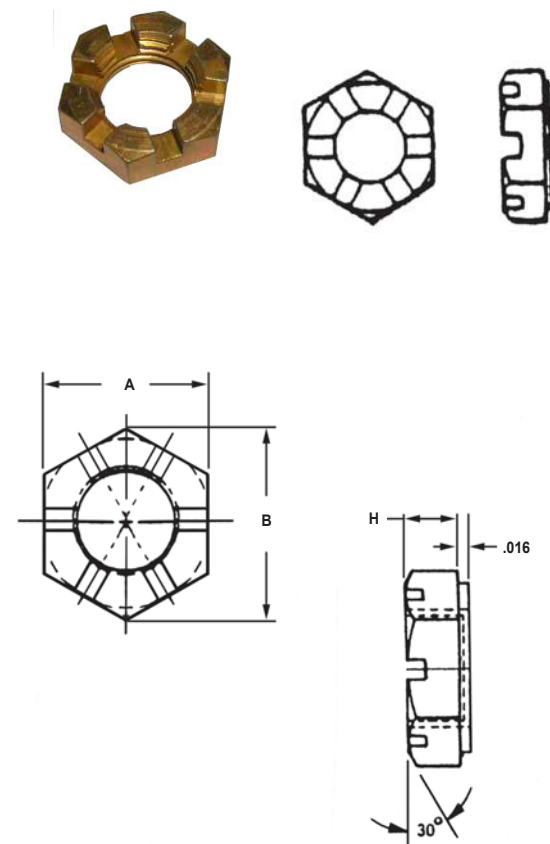


AN320

Shear Castellated Nut

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

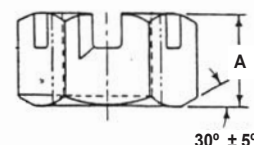
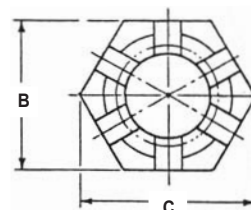
Thread Size	CARBON STEEL	CORROSION RESISTANT
	AN320	AN320
6-40	1	C1
8-32	2	C2
10-32	3	C3
1/4-28	4	C4
5/16-24	5	C5
3/8-24	6	C6
7/16-20	7	C7
1/2-20	8	C8
9/16-18	9	C9
5/8-18	10	C10



MS17825

Self Locking Castellated Nut
Nonmetallic Insert

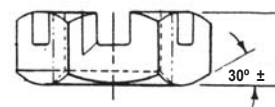
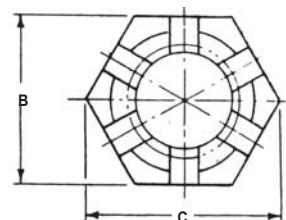
SIZE DASH NO.	THREAD MIL-S-8879	A		B		C	ULTIMATE TENSILE STRENGTH LB MIN	TEST WRENCHING TORQUE (INCH LBS) MIN
		MAX	MIN	MAX	MIN			
3	.1900-32	.265	.235	.376	.367	.410	1,950	35
4	.2500-28	.296	.266	.439	.430	.482	3,500	80
5	.3125-24	.343	.313	.502	.492	.552	5,500	225
6	.3750-24	.421	.391	.564	.553	.622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



MS17826

Self Locking Castellated Nut
Low Height, Nonmetallic Insert

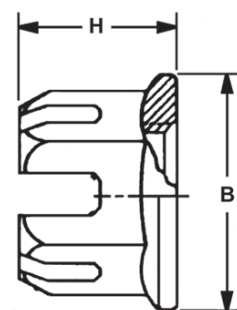
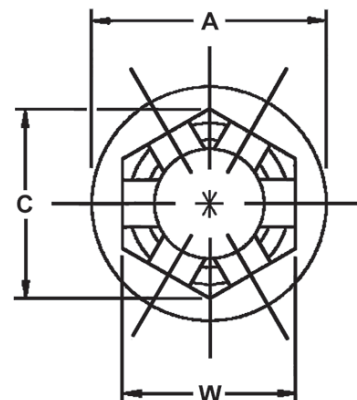
SIZE DASH NO.	THREAD MIL-S-8879	A		B		C	ULTIMATE TENSILE STRENGTH LB MIN	TEST WRENCHING TORQUE (INCH LBS) MIN
		MAX	MIN	MAX	MIN			
3	.1900-32			.376	.367	.410	1,000	20
4	.2500-28	.203	.173	.439	.430	.482	1,800	45
5	.3125-24			.502	.492	.552	2,900	90
6	.3750-24	.234	.204	.564	.553	.622	4,100	125
7	.4375-20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



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

MS14144

Self Locking Castellated Nut
Lightweight, 450° F

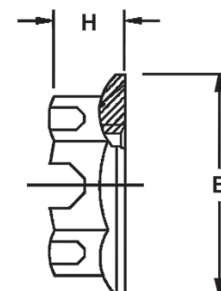
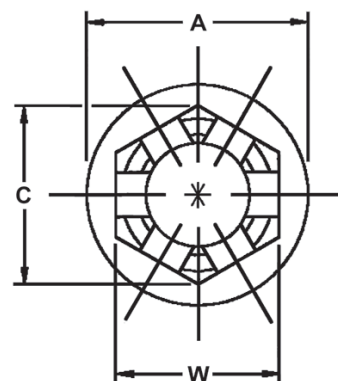


DASH NUMBER		THREAD MIL-S-8879	A	B	C	H		W	
NON DRY LUBE	DRY LUBE					MAX	MIN	MAX	MIN
3	L3	.1900-32	.325	.291	.277	.265	.235	.252	.243
4	L4	.2500-28	.420	.386	.348	.296	.266	.315	.305
5	L5	.3125-24	.520	.482	.419	.343	.313	.378	.367
6	L6	.3750-24	.579	.539	.480	.421	.391	.440	.429
7	L7	.4375-20	.645	.600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

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

MS14145

Self-Locking Castellated Nut
Thin, Lightweight, 450°



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

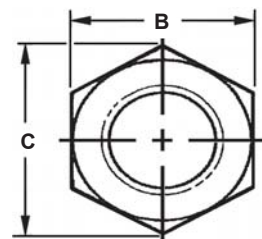
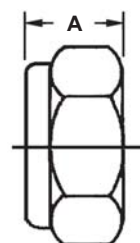
Thread Size	MS14145
.1900-32	L3
.2500-28	L4
.3125-24	L5
.3750-24	L6
.4375-20	L7
.5000-20	L8
.5625-18	L9
.6250-18	L10

MS21044

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



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



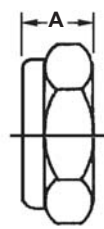
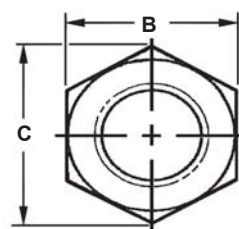
Thread Size	CARBON STEEL		CORROSION RESISTANT	ALUMINUM
	MS21044	MS20365	MS21044	MS21044
4-40	N04	440A	C04	D04
6-32	N06	632A	C06	D06
8-32	N08	832A	C08	D08
10-32	N3	1032A	C3	D3
1/4-28	N4	428A	C4	D4
5/16-24	N5	524A	C5	D5
3/8-24	N6	624A	C6	D6
7/16-20	N7	720A	C7	D7
1/2-20	N8	820A	C8	D8
9/16-18	N9	918A	---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

MS21083

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



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



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

NAS679

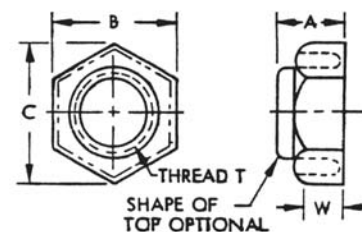
Self Locking Nut, Low Height

"A" After Base # Indicates All Metal

"W" Indicates Internal Wrenching Feature

"C" Indicates A286 CRES, Silver Plated for 800°F

"M" Indicates Dry Film Lubricant for 450°F Use



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

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

NAS679C

Hexagon Nut

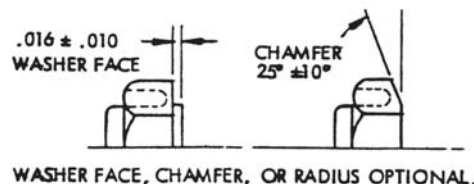
Self-Locking A286 CRES

"C#M" Indicates 450° Use, Dry Film Lube

"C" Indicates Silver Plated for 800° Use

"W" Indicates Internal Wrenching Feature

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



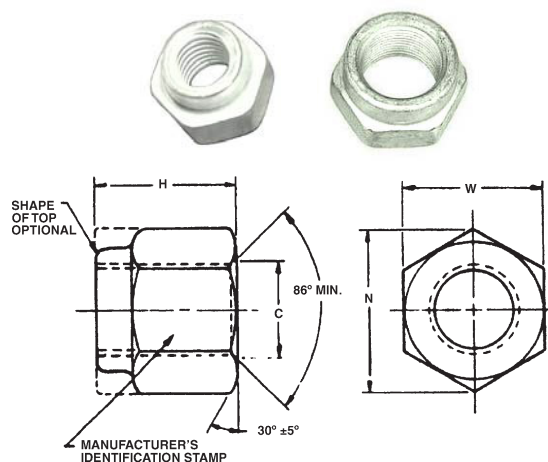
MS20500

Self Locking Nut

Heat Resistant, Corrosion Resistant, 1200°F, Silver Plated

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

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



EXHAUST MANIFOLD NUTS



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

MISC. NUTS

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

MS27151 (Old #) Pal Nut

(MS27151 for Ref. only)



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

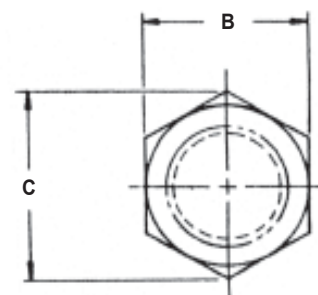
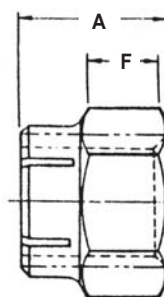
MS21045 (AN363)

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

Dash Number			Thread MIL-S-8879	A		B		C	F
Steel				MAX	MIN	MAX	MIN	MIN	MIN
Non-Dry Lubricant	Dry Lubricant	Corrosion Resistant							
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

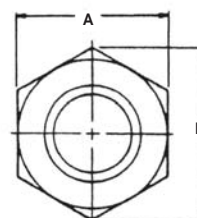
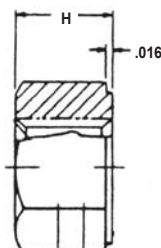


Thread Size	MS21046
4-40	C04
6-32	C06
8-32	C08
10-32	C3
1/4-28	C4
5/16-24	C5
3/8-24	C6
7/16-20	C7
1/2-20	C8

AN121501, AN121502, AN121503

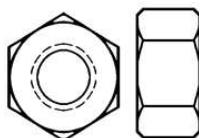
Plain Nut, Steel AMS 6322
(Old AN360 Engine Nut)

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



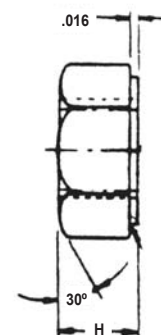
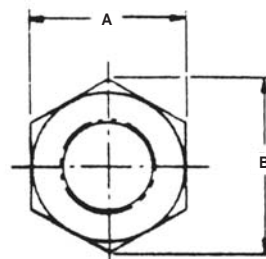
AN315

Hexagon Plain Nut



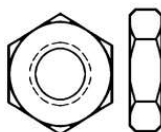
AN315	THREAD T	TENSILE STRENGTH STEEL	A +.002 -.010	B APPROX	H
AN315-3	10-32	2,210	.375	7/16	9/64
AN315-4	1/4-28	4,080	.438	1/2	3/16
AN315-5	5/16-24	6,500	.500	37/64	15/64
AN315-6	3/8-24	10,100	.563	21/32	9/32
AN315-7	7/16-20	13,600	.625	23/32	21/64
AN315-8	1/2-20	18,500	.750	7/8	3/8
AN315-9	9/16-18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

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



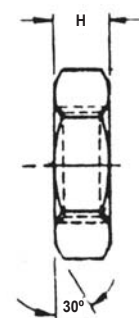
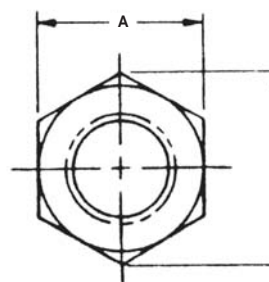
AN316

Hexagon Jam Nut



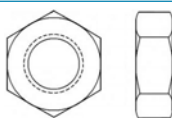
AN316	THREAD T	TENSILE STRENGTH	A +.002 -.010	B APPROX	H
AN316-4	1/4-28	2,040	.438	1/2	1/8
AN316-5	5/16-24	3,250	.500	37/64	5/32
AN316-6	3/8-24	5,050	.563	21/32	3/16
AN316-7	7/16-20	6,800	.625	23/32	7/32
AN316-8	1/2-20	9,250	.750	7/8	1/4
AN316-9	9/16-18	11,800	.875	1-1/64	9/32
AN316-10	5/8-18	15,050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

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

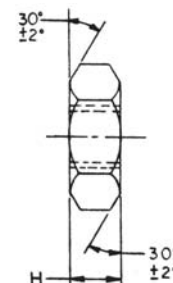
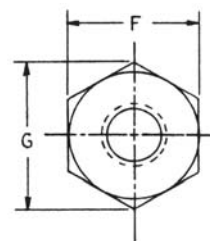


MS35649

Plain Hexagon Nut
Coarse Thread



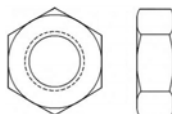
DASH NUMBER			THREAD SIZE	F WIDTH ACROSS CORNERS		G WIDTH ACROSS CORNERS		H THICKNESS	
CARBON STEEL CAD	CRES STEEL	BRASS		MAX	MIN	MAX	MIN	MAX	MIN
222	224	225	.0860-56	.187	.180	.217	.205	.066	.057
242	244	245	.1120-40	.250	.241	.289	.275	.098	.087
262	264	265	.1380-32	.312	.302	.361	.344	.114	.102
282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



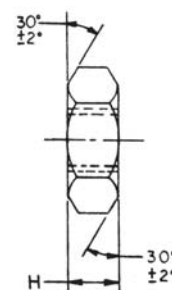
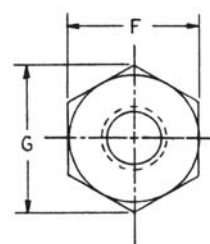
Thread Size	Steel	Corrosion Resistant	Brass, Black Oxide
	MS35649	MS35649	MS35649
2-56	222	224	225B
4-40	242	244	245B
6-32	262	264	265B
8-32	282	284	286B
10-24	202	204	205B
1/4-20	2252	2254	2255B
5/16-18	2312	2314	2315B

MS35650

Plain Hex Nut
Fine Thread



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

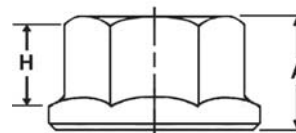
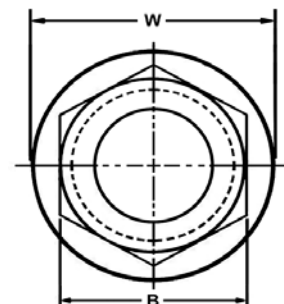


Thread Size	Steel	Corrosion Resistant	Brass, Black Oxide
	MS35650	MS35650	MS35650
4-48	342	344	345B
6-40	362	364	365B
8-36	382	384	386B
10-32	302	304	305B
1/4-28	3252	3254	3255B
5/16-24	3312	3314	3315B
3/8-24	3382	3384	3385B

NAS1291

Self Locking Nut
Low Height, Lightweight

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

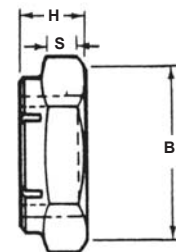
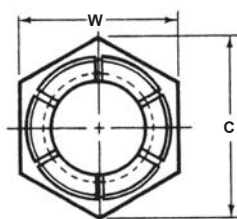


THREAD	DASH NUMBER			A	B	H	W
	450° F		800° F				
	STEEL	A286 CRES	A286 CRES				
.1380-32	---	C06M	---	.141 .115	.190 .181	.055	.244
.1640-32	---	C08M	---	.188 .125	.221 .213	.060	.290
.1900-32	---	C3M	---	.188 .154	.252 .243	.065	.330
.2500-28	---	C4M	---	.219 .204	.316 .304	.090	.420
.3125-24	---	C5M	---	.266 .251	.378 .367	.120	.520
.3750-24	---	C6M	---	.282 .267	.440 .430	.125	.620
.4375-20	7	C7M	C7	.328 .313	.504 .494	.160	.708
.5000-20	8	C8M	C8	.410 .350	.566 .556	.225	.814
.5625-18	9	C9M	C9	.480 .420	.692 .680	.320	.912
.6250-18	10	C10M	C10	.550 .490	.755 .743	.365	1.014

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

27 FT

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

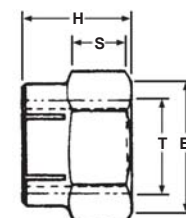
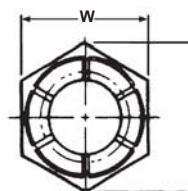


DASH NO.	THREAD SIZE	B MIN DIA	C MIN	H MAX	S MIN	W	
						MAX	MIN
632	.138-32	.305	.347	.141	.036	.313	.305
832	.164-32	.336	.383	.188	.070	.345	.336
1032	.190-32	.367	.419	.188	.065	.376	.367
428	.250-28	.430	.481	.219	.075	.439	.430
524	.312-24	.492	.561	.266	.097	.502	.492
624	.375-24	.553	.631	.282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

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

22 FH

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



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

SPS PART #	
22FH524	
22FH624	

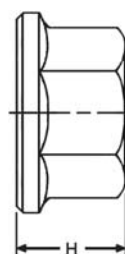
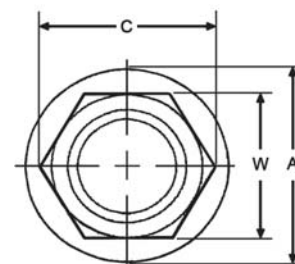
MS21042

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

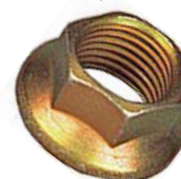
SIZE DASH NO.	THREAD	A MAX DIA	C MIN	H		W ACROSS FLATS	
				MAX	MIN	MAX	MIN
-02	.0860-56	.167	.138	.100	.080	.127	.122
-04	.1120-40	.206	.171	.125	.103	.158	.150
-06	.1380-32	.244	.207	.141	.115	.190	.181
-08	.1640-32	.290	.244	.188	.125	.221	.213
-3	.1900-32	.330	.277	.188	.154	.252	.243
-4	.2500-28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

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

with Dry Film Lube



without Dry Film Lube

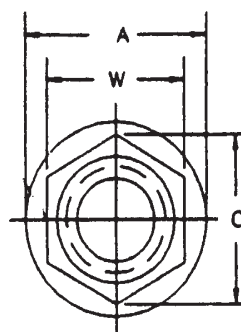


MS21043

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

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

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



RADIUS,
CHAMFER,
OR SQUARE

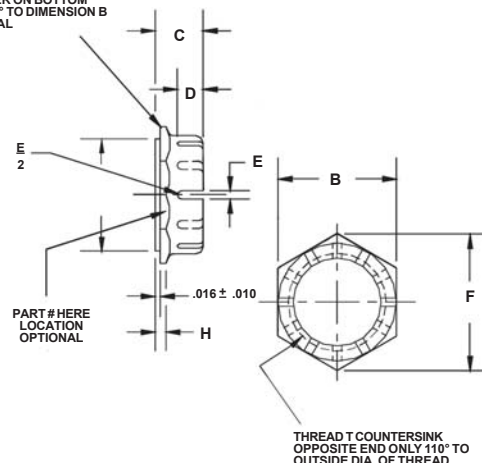


MS21025

Castellated Hexagon Nut
Alloy Steel 450°



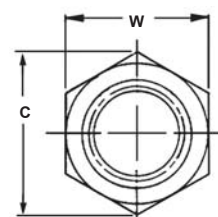
CHAMFER ON BOTTOM
FACE 15° TO DIMENSION B
OPTIONAL



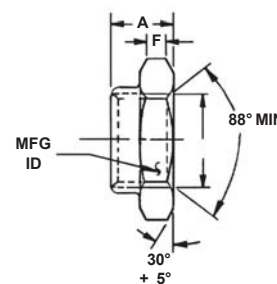
MS21025	Thread		B	C	D	E	F
	Size	Pitch					
15	.9375-16	.8969	1.250	.531	.219	.156	1.448
16	1.000-16	.9594	1.250	.500	.250	.156	1.448
20	1.250-16	1.2094	1.500	.562	.250	.156	1.732
24	1.500-16	1.4594	1.750	.562	.312	.156	2.021
28	1.750-16	1.7094	2.125	.562	.312	.172	2.454
32	2.000-16	1.9594	2.250	.656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

MS21245

SelfLocking Nut
Hexagon, Thin
450°, 80 KSI

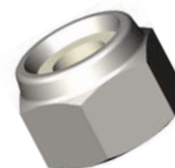


Thread Size	NON-DRY LUBE	DRY LUBE	A	C	D		F	W	
	MS21245	MS21245			MIN	MAX		MIN	MAX
.4375-20	7	L7	.328	.765	.448	.478	.458	.679	.690
.5000-20	8	L8	.328	.836	.521	.551	.531	.741	.752
.5625-18	9	L9	.375	.978	.584	.614	.594	.865	.877
.6250-18	10	L10	.407	1.050	.646	.676	.656	.928	.940
.7500-16	11	L12	.422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

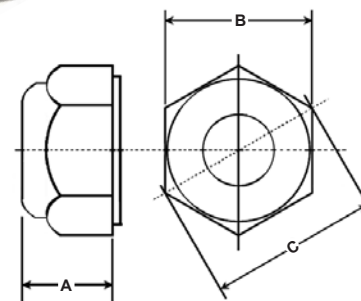


NAS1022

SelfLocking Nut
Hexagon Low Height
Low Strength Steel 450°



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

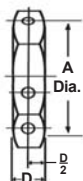
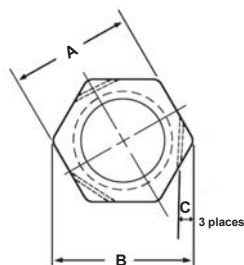


NAS509

Drilled Jam Nut

"C" Indicates A286 CRES

"L" Indicates Left Hand Thread



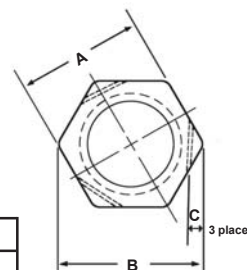
NAS509	T Thread	A	C	B	D
3	.1900-32	.375	.053	.411	.156
4	.2500-28	.438	.056	.484	.188
5	.3125-24	.500	.058	.555	.219
6	.3750-24	.563	.060	.628	.250
7	.4375-20	.625	.063	.700	.281
8	.5000-20	.750	.093	.844	.313

NAS1423

Drilled Jam Nut

"LH" Indicates

Left Hand Thread

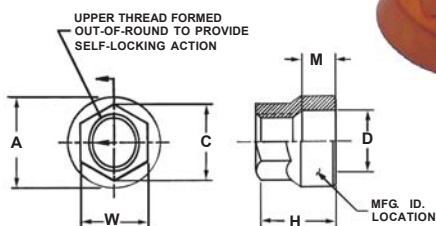


NAS1423	Thread	A	B	C	D
3 3LH	.1900-32	.375	.411	.053	.125
4 4LH	.2500-28	.438	.484	.056	.125
5 5LH	.3125-24	.500	.555	.058	.125
6 6LH	.3750-24	.563	.628	.060	.125
8	.5000-20	.750	.844	.093	.156
10	.6250-18	1.000	1.128	.093	.203
12	.7500-16	1.125	1.271	.125	.250

KFN587

K-Fast Nut, 6 Point, Self-Locking

7075 Aluminum Alloy {QQ-A-225/9}



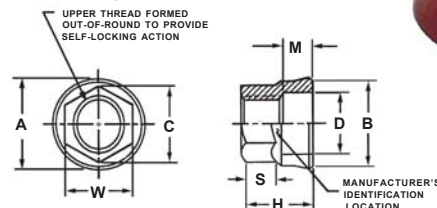
KFN587	T Thread	A	C	D	H	M	W	Tensile Strength
08	.1640-32	.290	.242	.171	.230	.087	.216	1,400
3	.1900-32	.304	.277	.198	.240	.087	.247	1,600
4	.2500-28	.410	.348	.259	.280	.092	.309	3,000
5	.3125-24	.515	.419	.322	.325	.097	.371	5,000

KFN600

K-Fast Nut, 6 Point, Shear Pin

7075 Aluminum Alloy {QQ-A-225/9} or

7175 Aluminum Alloy {QQ-A-430}



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

F22NKM, F22NKT

Hex Nut with Nylon Cap

Cadmium II plated



NKM



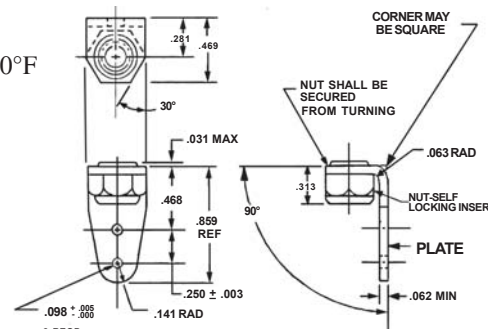
NKTM

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

AN256

Right Angle Nut

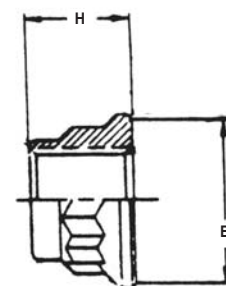
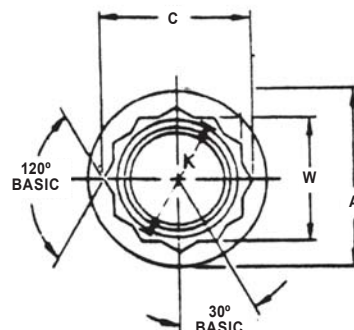
Self-Locking, 250°F



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

NAS1804

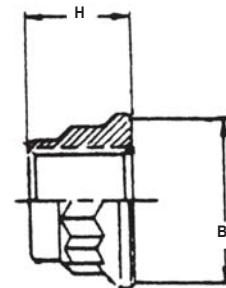
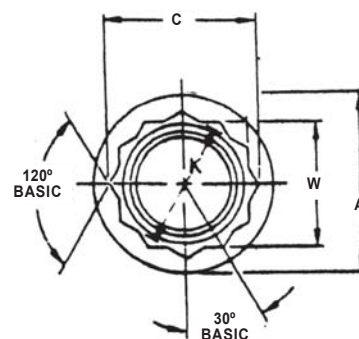
SelfLocking Nut
Extended Washer
Double Hexagon
Alloy Steel - 180 KSI, 450° F



DASH NO.	THREAD NOTE 1	A DIA	B DIA MIN	C MIN	H MAX	W	
						MAX	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

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



DASH NO.	THREAD NOTE 1	A DIA	B DIA MIN	C	H MAX	W	
						MAX	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

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

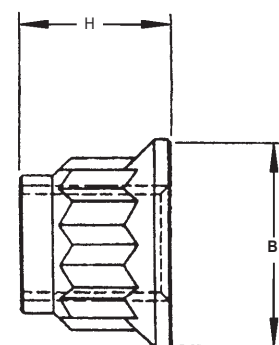
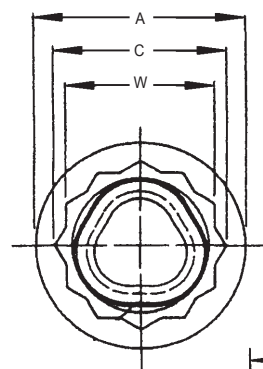
Double Hexagon, Flexloc

Self-Locking Alloy Steel

Flanged, 180 KSI Lightweight 450°



DASH NO.	THREAD SIZE	A MAX	B MIN	C MIN	H MAX	W		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



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

EB - DOUBLE HEX NUT

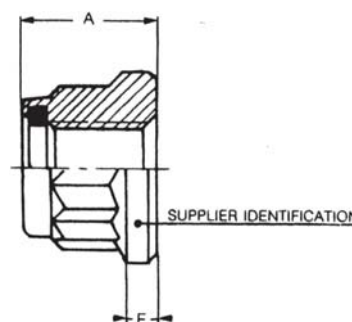
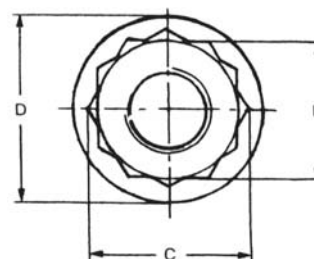
High Tensile 180,000 PSI (250°F)

This Table is For Reference Only.

We May Quote SPS, Bristol,
or Other Equivalent

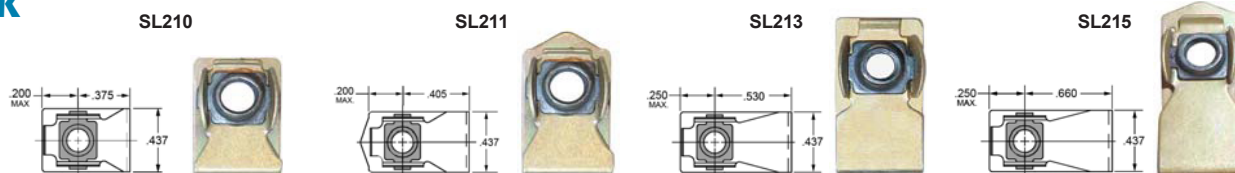


ESNA PART NO.	BRISTOL PART NO.	THREAD SIZE	A MAX	B MIN	C REF	D +.000 - .010	F REF	ULTIMATE TENSILE STRENGTH LB. MIN
EB-048	DHN35-4	.2500-28	.334	.376 - .367	.420	.531	.090	6,980
EB-054	DHN35-5	.3125-24	.396	.439 - .430	.491	.593	.090	11,100
EB-064	DHN35-6	.3750-24	.453	.502 - .492	.562	.687	.099	17,100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



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

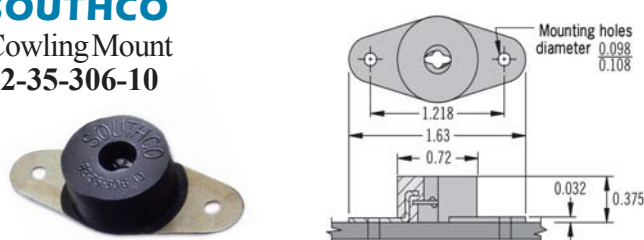
SHUR-LOK CLIP NUT



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

SOUTHCO

Cowling Mount
82-35-306-10



LORD COWLING MOUNTS

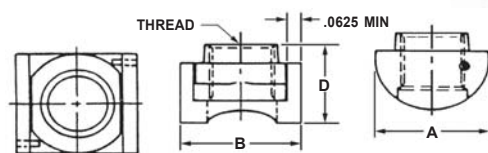
Part#

J7444-14
J7444-24
J7444-36



NAS577B

Floating Barrel Nut
Self Locking,
180 KSI



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

MS21063

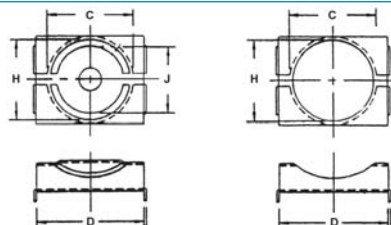
Gang Channel
Self Locking Nuts, Floating
Low Height, Steel, 125KSI, 250° F,
.190-32 Thread, 6 Ft. Length



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

NAS578

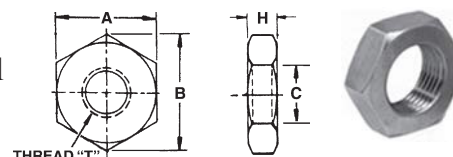
Floating Barrel
Nut Retainer



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

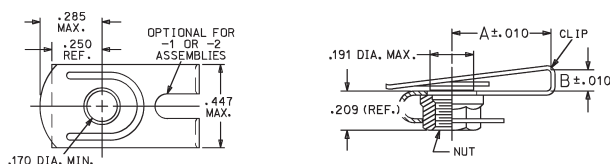
Hexagon Nut
Thin Electrical



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

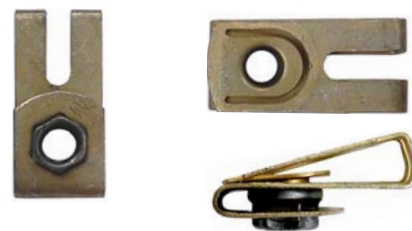
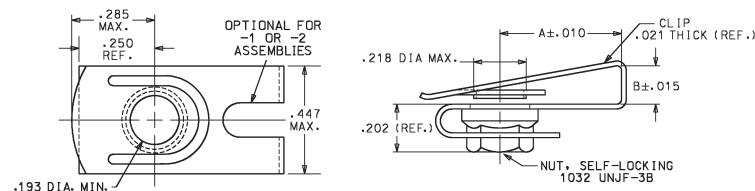
MONADNOCK CLIP NUTS

13080000-#



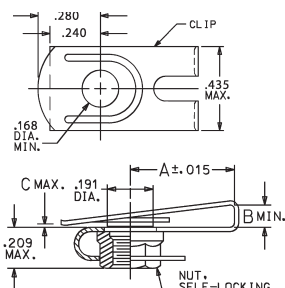
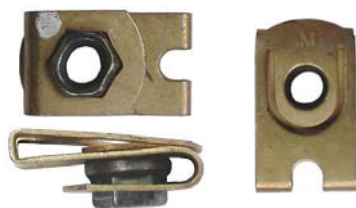
PART #	Thread Size	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13080000-3	8-32	.395	.163	.375	.020-.120	.192-.202
13080000-4	8-32	.520	.190	.500	.020-.120	.192-.202
13080000-5	8-32	.665	.190	.625	.020-.120	.192-.202

13100000-#

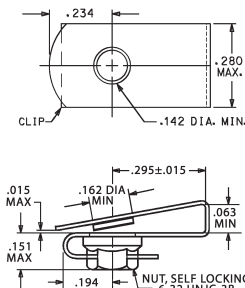


PART #	Thread Size	A ±.010	B ±.010	Nominal Edge Distance	Mounting Sheet Thickness	Recommended Installation Hole Dia.
13100000-2	10-32	.300	.130	.281	.020-.120	.220-.230
13100000-3	10-32	.395	.163	.375	.020-.090	.220-.230
13100000-4	10-32	.520	.190	.500	.020-.120	.220-.230
13100000-5	10-32	.665	.190	.625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

130007, 130008

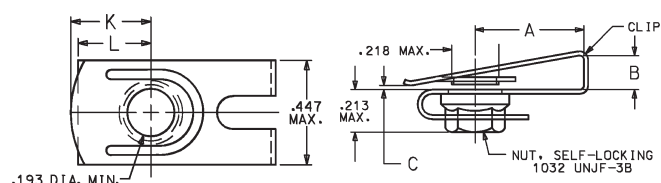


294667



PART #	Thread Size	A	B	C	Sheet Thickness	Nom. Edge Margin	PART #	Thread Size	Sheet Thickness	Nom. Edge Margin
130007	8-32	.520	.095	.015	.020-.090	.310-.500	294667	6-32	.030-.062	.280-.310
130008	8-32	.395	.075	.015	.020-.070	.250-.380				

130061, 130062, 130068

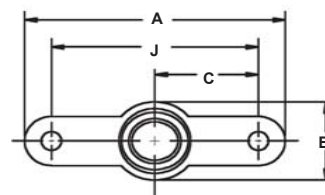


PART #	Thread Size	A ±.015	B Min.	C Max.	C Min.	K Max.	L Max.	Sheet Thickness	Nominal Edge Margin
130061	10-32	.515	.095	.015	.000	.338	.281	.020-.090	.350-.500
130062	10-32	.665	.095	.015	.000	.338	.281	.020-.090	.510-.650
130068	10-32	.740	.235	.120	.010	.338	.281	.140-.230	.600-.710

MS21047 - TWO LUG, LOW HEIGHT NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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



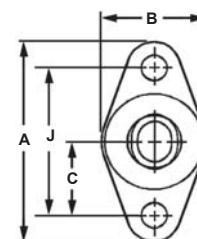
MS21047 is available without Dry Film Lube

MS21048 - Two Lug Nutplate Corrosion Resistant

MS21049 - TWO LUG, LOW HEIGHT 100° COUNTERSUNK

"K" After Dash # Indicates Countersunk Riveting Holes

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



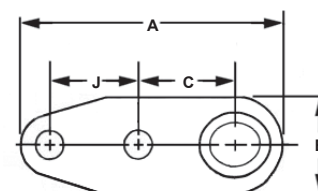
MS21049 is available without Dry Film Lube

MS21050 - Two Lug, Low Height Nutplate Corrosion Resistant

MS21051 - ONE LUG NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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



MS21051 is available without Dry Film Lube

MS21052 - One Lug Nutplate Corrosion Resistant

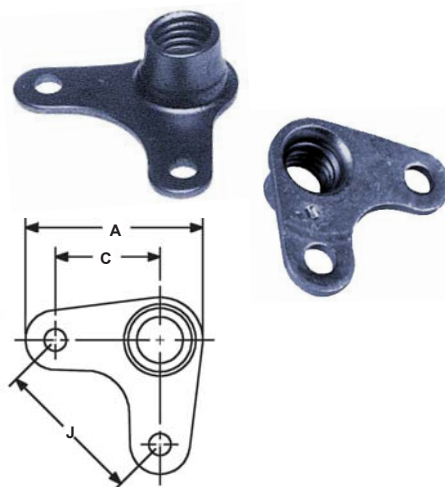
MS21055 - CORNER NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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

MS21055 is available without Dry Film Lube

MS21056 - Corner Nutplate Corrosion Resistant



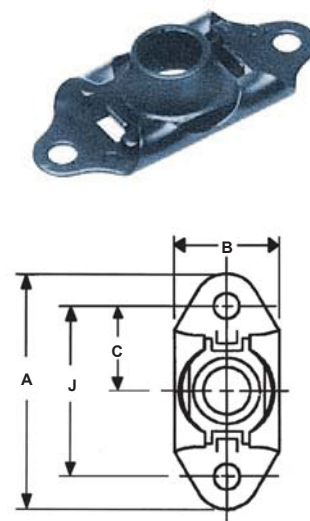
MS21059 - TWO LUG, LOW HEIGHT, FLOATING NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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

MS21059 is available without Dry Film Lube

MS21060 - Two Lug, Low Height, Floating Corrosion Resistant



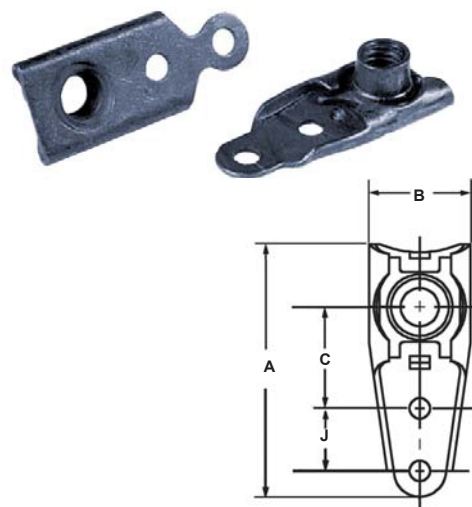
MS21061 - ONE LUG, FLOATING NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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

MS21061 is available without Dry Film Lube

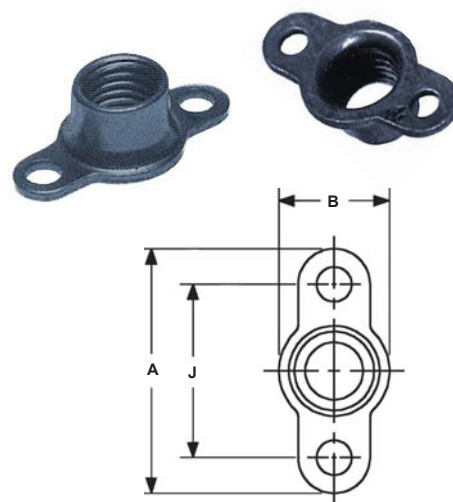
MS21062 - One Lug, Floating Nutplate Corrosion Resistant



MS21069 - TWO LUG, LOW HEIGHT MINIATURE NUTPLATE

"K" After Dash # Indicates Countersunk Riveting Holes

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

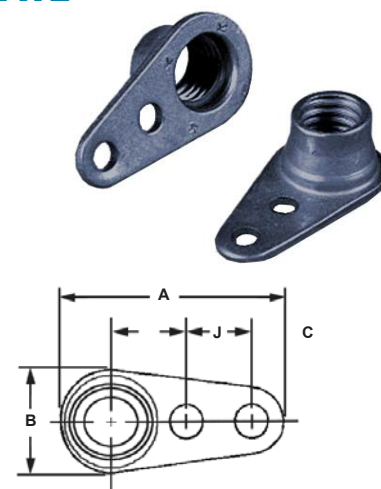


MS21069 is available without Dry Film Lube

MS21070 - Two Lug, Low Height Miniature Corrosion Resistant

MS21071 - ONE LUG, LOW HEIGHT MINIATURE NUTPLATE

Thread Size	A Max	B Max	C Max	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 is available without Dry Film Lube

MS21072 - One Lug, Low Height Miniature Corrosion Resistant

MS21073 - CORNER, LOW HEIGHT MINIATURE NUTPLATE

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



MS21074 - Corner, Low Height Miniature Corrosion Resistant

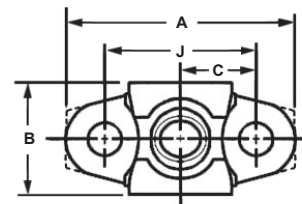
(NAS698C) Reference MS21073 for Sizes

MS21075 - TWO LUG, LOW HEIGHT MINIATURE FLOATING NUTPLATE

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

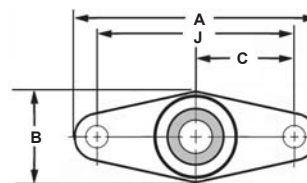
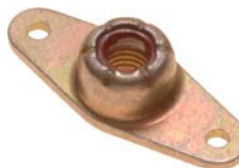
MS21075 is Available Without Dry Film Lube

MS21076 - Two Lug, Low Height Miniature Corrosion Resistant



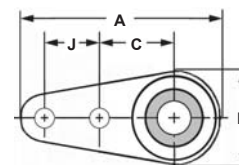
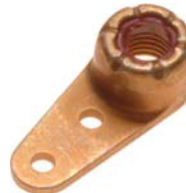
MS21078 - TWO LUG NUTPLATE WITH NYLON INSERT

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



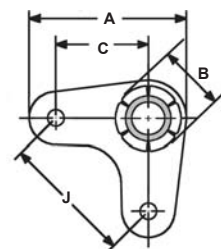
MS21080 - ONE LUG NUTPLATE WITH NYLON INSERT

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



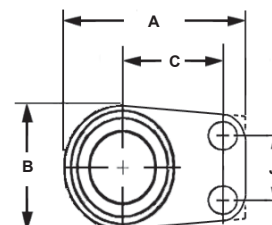
MS21081 - CORNER NUTPLATE WITH NYLON INSERT

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



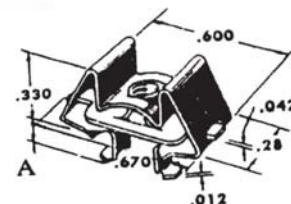
MS21086 - SIDE BY SIDE REDUCED RIVET SPACING NUT PLATE

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



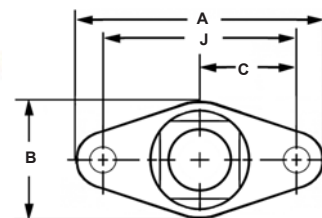
MS33737-# INSTRUMENT MOUNTING NUT

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



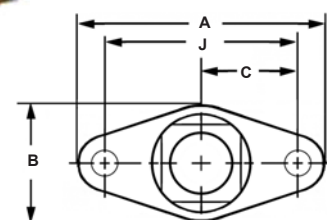
NAS1473 - TWO LUG, FLOATING, CAPPED NUTPLATE

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



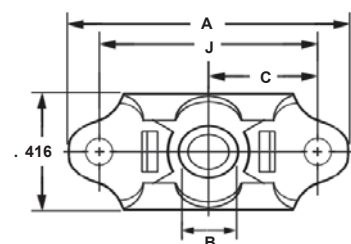
NAS1474 - TWO LUG, FLOATING, CAPPED NUTPLATE, WITH REDUCED RIVET SPACING

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

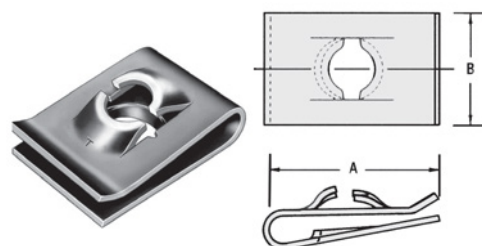
Thread Size	A Max	B Max	C Max	J Max	Height Max	NAS1870
10-32	.948	.250	.344	.688	.312	-3-2
10-32	.948	.250	.344	.688	.375	-3-3
10-32	.948	.250	.344	.688	.438	-3-4



TINNERMAN NUT

“U” Type (Pre-packaged bags quantity of 50)

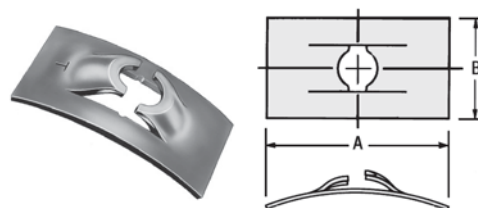
Tinnerman Part #	Screw Size	For Your Reference Only	A Length	B Width
A1784-6Z1D	#6	NAS395-6	.610	.440
A1785-6Z1D	#6	NAS395-7	.840	.440
A1786-8Z1D	#8	NAS395-12	.530	.500
D1274-8-1	#8	NAS395-14	.500	.500
A1789-8Z1D	#8	NAS395-16	.610	.440
A1348-8Z1D	#8	NAS395-17	.730	.500
A1787-8Z1D	#8	NAS395-18	.840	.440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



TINNERMAN NUT

“Flat” Type (Pre-packaged bags quantity of 50)

Tinnerman Part #	Screw Size	For Your Reference Only	A Length	B Width
A1776-4Z1D	#4	NAS446-1	.500	.312
A1777-6Z1D	#6	--	.630	.437
A1778-8Z1D	#8	NAS446-4	.625	.437
A1779-10Z1D	#10	NAS446-5	.875	.500



TINNERMAN NUTPLATE

50 pcs. min.

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



PIPER CLIPNUT

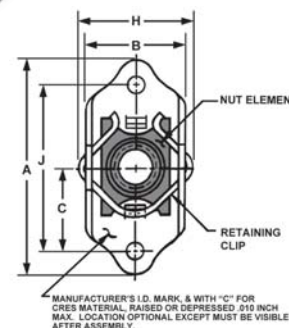


Part #	Piper Part #	Diameter
11204 New Rev	477-640	8-32
11202 Old Rev		

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

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

Thread Size	A Max	B Max	C ±.005	H Max	J ±.002	Height Max	NAS1791	NAS1791
10-32	.948	.445	.344	.484	.688	.640	A3-1	C3-1
						.640	A3-2	C3-2
						.755	A3-3	C3-3
						.823	A3-4	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

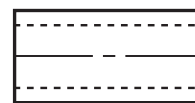


NAS43DD

Spacers

"FC" Indicates Chemical Film Finish

"N" Indicates Gray Anodized Finish



Use For #8 & #10 - 3 (Dia. .164 & .190) and 4 (Dia. .250)

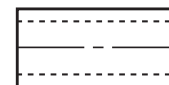
Length	NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD3-	Length	NAS43DD4-
1/16	4FC	11/32	22FC	21/32	42FC	1/8	8FC
5/64	5FC	23/64	23FC	11/16	44FC	5/32	10FC
3/32	6FC	3/8	24FC	3/4	48FC	3/16	12FC
7/16	7FC	3/8	24N	3/4	48N	1/4	16FC
1/8	8FC	13/32	26FC	13/16	52N	5/16	20FC
1/8	8N	7/16	28FC	27/32	54FC	3/8	24FC
5/32	10FC	15/32	30FC	7/8	56FC	13/32	26FC
3/16	12FC	1/2	32FC	29/32	58FC	7/16	28FC
3/16	12N	1/2	32N	1	64FC	15/32	30FC
7/32	14FC	17/36	34FC	1	64N	1/2	32FC
15/64	15FC	35/64	35FC	1-1/4	80N	9/16	36FC
1/4	16FC	9/16	36FC	1-1/2	96FC	5/8	40FC
1/4	16N	19/32	38FC	1-3/4	112FC	21/32	42FC
9/32	18FC	5/8	40FC	2	128FC	3/4	48FC
5/16	20FC	5/8	40N			1	64FC

NAS43HT

Spacers

"HT" Indicates Heat Treated

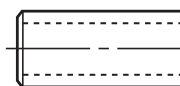
Alloy Steel



Length	NAS43HT	Length	NAS43HT
1/8	0-8	3/8	3-24
1/8	3-8	3-3/8	3-216
10/64	3-10	1/2	3-32
3/16	3-12	3/4	3-48
7/32	3-14	3/32	4-6
1/4	3-16	1/8	4-8
9/32	3-18	10/64	4-10
5/16	3-20	3/16	4-12
11/32	3-22	1/4	4-16

NAS75

Bushings



Length	.190 Dia. NAS75-3	Length	.250 Dia. NAS75-4	Length	.3125 Dia. NAS75-5
3/32	-003	3/32	-003	3/32	---
1/8	-004	1/8	-004	1/8	-004
5/32	-005	5/32	-005	5/32	---
3/16	-006	3/16	-006	3/16	-006
7/32	-007	7/32	-007	7/32	-007
1/4	-008	1/4	-008	1/4	-008
9/32	-009	9/32	-009	9/32	-009
5/16	-010	5/16	-010	5/16	-010
11/32	---	11/32	-011	11/32	-011
3/8	-012	3/8	-012	3/8	-012
13/32	-013	13/32	-013	13/32	-013
7/16	-014	7/16	---	7/16	-014
15/32	---	15/32	---	15/32	-015
1/2	-016	1/2	-016	1/2	---

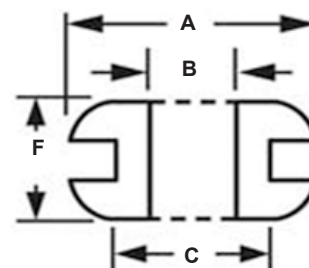
GROMMETS MS35489

AN931 - Alternate #

No Code (after dash #) - Synthetic Rubber

X (after dash #) - Silicone Rubber

MS35489	AN931	B Hole	C Groove	A Outside	F Dimension
140	--	.125	.188	.312	.188
1	--	.125	.250	.344	.188
2	2-9	.125	.562	.750	.188
3	2-16	.125	1.000	1.250	.250
3X	--	.125	1.000	1.250	.250
4	3-5	.188	.312	.438	.188
4X	--	.188	.312	.438	.188
134	3-9	.188	.562	.750	.188
134X	--	.188	.562	.750	.188
5	3-10	.188	.625	.875	.188
6	4-7	.250	.438	.625	.188
7	4-12	.250	.750	1.000	.250
8	4-16	.250	1.000	1.250	.250
8X	--	.250	1.000	1.250	.250
9	5-9	.312	.562	.812	.312
10	5-12	.312	.750	1.000	.312
118	5-13	.312	.812	1.062	.312
141	--	.375	.500	.656	.250
11	6-10	.375	.625	.875	.312
12	6-16	.375	1.000	1.250	.250
13	7-11	.438	.688	.938	.312
149	--	.500	.750	1.000	.250
14	8-13	.500	.812	1.062	.312
14X	--	.500	.812	1.062	.312
15	8-20	.500	1.250	1.500	.250
16	9-13	.562	.812	1.062	.312
17	10-14	.625	.875	1.125	.312
18	10-20	.625	1.250	1.500	.250
19	11-16	.688	1.000	1.312	.375
20	12-17	.750	1.062	1.375	.375
135	12-20	.750	1.250	1.625	.250
21	12-23	.750	1.438	1.812	.375
22	14-20	.875	1.250	1.625	.438
121	14-26	.875	1.625	2.000	.438
23	16-22	1.000	1.375	1.750	.438
24	16-30	1.000	1.875	2.250	.438
27	24-28	1.500	1.750	2.125	.438
142	--	.125	.250	.344	.218
150	--	.500	.750	1.000	.281
33	A3-5	.188	.312	.438	.250
34	A3-10	.188	.625	.875	.250
35	A4-7	.250	.438	.625	.250
36	A4-12	.250	.750	1.000	.312
38	A5-9	.312	.562	.812	.375
39	A5-12	.312	.750	1.000	.375
40	A6-10	.375	.625	.875	.375
41	A6-16	.375	1.000	1.250	.312
42	A11-16	.438	.688	.938	.375
43	A8-13	.500	.812	1.062	.375
48	B2-9	.688	1.000	1.312	.438
50	A12-23	.750	1.438	1.812	.438
52	A16-22	1.000	1.375	1.750	.500
56	A24-28	1.500	1.750	2.125	.500
64	B4-7	.250	.438	.625	.312
69	B6-10	.375	.625	.875	.438
93	C4-7	.250	.438	.625	.375



MS28775 O'Ring

Thickness	Inside Dia.	MS28775
.070	.070	004
	.102	005
	.113	006
	.145	007
	.176	008
	.208	009
	.239	010
	.301	011
	.364	012
	.426	013
	.489	014
	.551	015
	.614	016
	.676	017
	.739	018
	.801	019
	.864	020
	.932	021
	.989	022
	1.051	023
	1.114	024
	1.176	025
	1.239	026
	1.301	027
	1.364	028
	1.489	029
.103	.362	110
	.424	111
	.487	112
	.549	113
	.612	114
	.674	115
	.737	116
	.799	117
	.862	118
	.924	119
	.987	120
	1.049	121
	1.112	122
	1.174	123
	1.237	124
	1.299	125
	1.362	126
	1.424	127
	1.487	128
	1.549	129
	1.549	130
	1.674	131
	1.737	132
	1.799	133
	1.862	134
	1.925	135
	1.987	136
	2.050	137
	2.112	138
	2.175	140
	2.300	141
	2.362	142
	2.425	143
	2.487	144
	2.550	145
	2.612	146
	2.675	147
	2.737	148
	3.987	155
.139	.234	202
	.734	210
	.796	211

MS28775 O'Ring

Thickness	Inside Dia.	MS28775
.139	.859	212
	.921	213
	.984	214
	1.046	215
	1.109	216
	1.171	217
	1.234	218
	1.296	219
	1.359	220
	1.421	221
	1.484	222
	1.609	223
	1.726	224
	1.850	225
	1.980	226
	2.110	227
	2.334	228
	2.359	229
	2.484	230
	2.609	231
	2.734	232
	2.859	233
	2.984	234
	3.109	235
	3.234	236
	3.359	237
	3.484	238
	3.609	239
	3.734	240
	3.859	241
	3.984	242
	4.109	243
	4.234	244
	4.609	247
	5.984	258
	6.507	260
	6.711	261
	7.984	266
	8.204	267
	8.734	269
	10.48	275
.210	1.425	325
	1.600	326
	1.725	327
	1.850	328
	1.975	329
	2.100	330
	2.225	331
	2.350	332
	2.475	333
	2.600	334
	2.725	335
	2.855	336
	2.975	337
	3.100	338
	3.225	339
	3.350	340
	3.475	341
	3.725	343

MS28773

Back Up Retainer
Material - Teflon



Thickness	Width	Nom. Tube O.D.	MS28773
1/4	1/4	1/4	-04
5/16	5/16	5/16	-05
3/8	3/8	3/8	-06
1/2	1/2	1/2	-08
5/8	5/8	5/8	-10
3/4	3/4	3/4	-12
1	1	1	-16

MS28774

Back Up Retainer
Material - Teflon



Thickness	Width	I.D.	MS28774
.045 .052	.052 .054	.100	-004
		.148	-006
		.171	-007
		.202	-008
		.265	-010
		.327	-011
		.390	-012
		.455	-013
		.518	-014
		.580	-015
	.085 .087	.643	-016
		.768	-018
		.830	-019
		1.023	-022
		1.273	-026
		.398	-110
		.452	-111
		.515	-112
		.577	-113
		.648	-114
.065 .075	.118 .120	.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
		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
		2.138	-330
		2.268	-331
		2.393	-332

MS28776

Scraper Piston Rod
Material - Metal



Cross-section of MS28776

MS28776	Rod O.D.	Scraper O.D.	Thickness
MS28776M2-21	2	2.282	.094
MS28776M2-22	2-1/8	2.407	.094
MS28776M2-23	2-1/4	2.532	.094

MS28777

Back Up Washer
Material - Leather



Thickness	Tubing O.D.	Inside Dia.	MS28777
.094	3/16	.2960	-3
	1/4	.3430	-4
	5/16	.4060	-5
	3/8	.4680	-6
	1/2	.6400	-8

MS28778 Packing

Material - Nitrile 90



Thickness	Tubing O.D.	Inside Dia.	MS28778
.064	1/8	.239	-2
	3/16	.301	-3
.072	1/4	.351	-4
	5/16	.414	-5
.078	3/8	.468	-6
.087	1/2	.644	-8
.097	5/8	.755	-10
.116	3/4	.924	-12
	7/8	1.047	-14
.118	1	1.171	-16
	1-1/4	1.475	-20

MS29512 PACKING

Thickness	Tubing O.D.	MS29512	Thickness	Tubing O.D.	MS29512
.064	1/8	-02	.097	9/16	-09
.064	3/16	-03	.097	5/8	-10
.072	1/4	-04	.116	3/4	-12
.072	5/16	-05	.116	7/8	-14
.078	3/8	-06	.116	1	-16
.082	7/16	-07	.118	1-1/4	-20
.087	1/2	-08			

MS29513 O'Ring

Thickness	Inside Dia.	MS29513	Thickness	Inside Dia.	MS29513
.070	.101	-005	.103	1.549	-129
	.114	-006		1.612	-130
	.145	-007		1.674	-131
	.176	-008		1.737	-132
	.208	-009		1.799	-133
	.239	-010		1.862	-134
	.301	-011		1.925	-135
	.364	-012		1.987	-136
	.426	-013		2.050	-137
	.489	-014		2.112	-138
	.551	-015		2.737	-148
	.614	-016	.139	.734	-210
	.676	-017		.859	-212
	.739	-018		.921	-213
	.801	-019		.984	-214
	.864	-020		1.046	-215
	.926	-021		1.109	-216
	.986	-022		1.171	-217
	1.051	-023		1.234	-218
	1.114	-024		1.296	-219
	1.176	-025		1.359	-220
	1.239	-026		1.484	-222
	1.301	-027		1.609	-223
	1.489	-029		1.734	-224
	1.739	-031		1.859	-225
	2.114	-034		1.984	-226
.103	.362	-110		2.109	-227
	.424	-111		2.484	-230
	.487	-112		2.609	-231
	.549	-113		2.734	-232
	.612	-114		2.859	-233
	.674	-115		2.984	-234
	.737	-116		3.109	-235
	.799	-117		3.234	-236
	.862	-118		3.359	-237
	.924	-119		3.484	-238
	.987	-120		3.734	-240
	1.049	-121		3.859	-241
	1.112	-122		4.109	-243
	1.174	-123	.210	1.725	-327
	1.362	-126		3.100	-338
	1.424	-127			

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

MS29561 O'Ring

Thick	Inside Dia.	MS29561
.070	.176	-008
	.239	-010
	.301	-011
	.364	-012
	.426	-013
	.489	-014
	.551	-015
	.676	-017
	.864	-020
	.926	-021
	.989	-022
	1.114	-024
	1.176	-025
	1.239	-026
.103	.362	-110
	.424	-111
	.487	-112
	.549	-113
	.612	-114
	.674	-115
	.737	-116
	.924	-119
	1.049	-121
	1.925	-135
	2.112	-138
.139	.734	-210
	.859	-212
	.859	-213
	.984	-214
	1.046	-215
	1.234	-218
	1.296	-219
	2.484	-230
	2.734	-232
	2.984	-234
	3.109	-235
	3.234	-236
	3.359	-237
	3.484	-238
	3.609	-239
	4.734	-244
	4.234	-248

MS9385 O'Ring

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

M25988/1 O'Ring

M25988/1
-010
-011
-012
-015
-016
-017
-022
-026
-037
-111
-115
-134
-138
-142
-152
-153
-212
-235
-271
-382
-902
-903
-904
-906
-908
-912
-916
-928

M25988/2 O'Ring

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

M83461/1 O'Ring

M83461/1	M83461/1
-010	-136
-011	-141
-012	-210
-013	-212
-014	-215
-015	-216
-016	-218
-018	-222
-020	-224
-024	-226
-110	-227
-111	-236
-112	-326
-117	-328
-130	-330
-135	

M83248/1 O'Ring

M83248/1	M83248/1
-002	-140
-003	-141
-004	-142
-006	-143
-007	-144
-008	-145
-009	-146
-010	-151
-011	-152
-012	-153
-013	-154
-014	-157
-015	-158
-016	-159
-017	-162
-018	-208
-019	-210
-020	-212
-021	-213
-022	-214
-023	-215
-024	-216
-025	-217
-026	-218
-027	-219
-028	-220
-029	-222
-030	-224
-031	-226
-032	-227
-033	-228
-034	-230
-035	-231
-036	-232
-037	-234
-038	-235
-039	-236
-040	-237
-041	-238
-043	-239
-110	-240
-111	-241
-112	-242
-113	-243
-114	-244
-115	-246
-116	-247
-117	-248
-118	-249
-119	-251
-120	-254
-121	-258
-122	-259
-123	-264
-125	-266
-126	-277
-127	-278
-128	-902
-129	-903
-130	-904
-131	-905
-133	-906
-134	-907
-135	-908
-136	-910
-137	-912
-138	-916
-139	-920

Thickness and Inside Diameter Dimensions Deviate $\pm .003$ to $\pm .005$
Larger O'Ring Dimensions Deviate $\pm .01$ on I.D.

NAS617 Packing

Thickness	Tubing O.D.	NAS617
.064	1/8	-2
.064	3/16	-3
.072	1/4	-4
.072	5/16	-5
.078	3/8	-6
.087	1/2	-8
.097	5/8	-10
.116	3/4	-12
.116	1	-16
.118	1-1/4	-20

NAS1611

Pre Formed O'Ring Packing

NAS1611	NAS1611
-009	-110A
-009A	-111
-010	-112
-010A	-114
-012	-116
-012A	-117
-014A	-120
-015	-132A
-017A	-214A
-018A	-216A
-020A	-218
-024A	-220
-026A	-223
-028A	-228A
-110	-260A

NAS1523

Packing with Retainer

"C" after Base Part # indicates
Corrosion Resistant Retainer

"-" after Base Part # indicates Steel Retainer

"R" after Dash # indicates Fluorinated Silicone
Materials Per MIL-R-25988

"Y" after Dash # indicates Buna -N Material Per
MIL-R-7362 Type I

"AA" after Base Part # indicates Aluminum Alloy

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

NAS1612 Packing

O.D.	I.D.	NAS1612
1/8	.239	-2A
3/16	.301	-3A
1/4	.351	-4A
5/16	.414	-5A
3/8	.468	-6A
1/2	.644	-8A
5/8	.755	-10A
3/4	.924	-12A

AS3084

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

AS3085 O'Ring

AS3085	AS3085
-007	-023
-008	-024
-010	-028
-011	-031
-012	-041
-013	-111
-014	-113
-015	-116
-016	-119
-017	-122
-018	-123
-019	-124
-020	-126
-022	-158

AS3209 O'Ring

AS3209	AS3209
-008	-030
-009	-038
-010	-040
-011	-043
-012	-113
-013	-114
-014	-115
-015	-116
-016	-120
-017	-122
-018	-126
-019	-139
-020	-140
-022	-143
-024	-145
-025	-146
-028	-214
-029	-224

AS3578 O'Ring

(Supersedes MS9021)

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

AS3582 O'Ring

AS3582
-012
-013
-014
-116
-119

AS3208 O'Ring

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

S9412 O'Ring

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

O'RINGS

Government and Military Specifications

Drawing Number	Compound Specification Number	Temperature Range, °F	Description
AN6227B	MIL-P-5516 Class B	-65 to 275	PACKING, O'Rings for use in hydraulic systems and shock absorbers using MIL-H-5606 fluids.
AN6230B	MIL-P-5516 Class B	-65 to 275	GASKET, O'Ring - O'Rings for use in hydraulic systems using MIL-H-5606 fluids
NAS1593	MIL-R-25897 Type 1, Class 1	-20 to 400	PACKING PREFORMED - 75 Shore "A" harness fluoroelastomer O'Rings for aircraft and aerospace applications
MS9020	AMS 7271	-65 to 225	PACKING PREFORMED - AMS 7271. O'Ring for straight thread tube fitting boss gaskets with hydrocarbon fuels.
MS9021	AMS 7271	-65 to 225	PACKING PREFORMED - AMS 7271, O'Rings - Fuel and low temperature resistant.
MS9068	AMS 3304	-80 to 450	PACKING PREFORMED - AMS 3304, O'Ring - For air and gases. Static seals only.
MS9385	AMS 7267	-80 to 500 in air	GASKET - STRAIGHT THREAD TUBE FITTING, BOSS - Silicone rubber.
MS9386	AMS 7267	-80 to 500 in air	RINGS, SEALING, SILICONE RUBBER - Heat Resistant. Low Compression Set.
MS9388	AMS 7278	-20 to 400	RINGS, SEALING - High Temperature Fluid Resistant, Fluorocarbon Type.
MS28775	MIL-P-25732	-65 to 275	PREFORMED PACKING O'Rings for hydraulic systems
MS28778	MIL-P-5510	-65 to 212	PREFORMED PACKING STRAIGHT THREAD TUBE FITTING BOSS. O'Ring for + 160 °F hydraulic fluid systems per MIL-H-5606
MS29512	MIL-P-5315	-65 to 200	PREFORMED PACKING, HYDROCARBON FUEL RESISTANT, TUBE FITTING, O'Rings of the sizes shown in MS29512 and one grade only.
MS29513	MIL-P-5315	-65 to 200	PREFORMED PACKING, HYDROCARBON FUEL RESISTANT, O'Ring of the sizes shown on MS29513 and one grade only.
MS29561	MIL-R-7362 Type 1	-65 to 257	PREFORMED PACKING, SYNTHETIC LUBRICANT RESISTANT O'Ring for MIL-L-7807 fluids. (Use NAS617 for tube fitting gaskets).
M25988/1	MIL-R-25988 Class 1, Grade 70	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M25988/3	MIL-R-25988 Class 1, Grade 60	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M25988/4	MIL-R-25988 Class 1, Grade 80	-80 to 350	FLUOROSILICONE O'Rings - Oil and Fuel Resistant
M83248/1	MIL-R-83248 Class 1	-20 to 400	FLUOROCARBON O'Rings - High Temperature, Fluid and Compression Set Resistant.
M83248/2	MIL-R-83248 Class 2	-20 to 400	FLUOROCARBON O'Rings - High Temperature, Fluid and Compression Set Resistant
NAS617	MIL-R-7362	-65 to 257	PREFORMED PACKING, STRAIGHT THREAD TUBE FITTING BOSS O'Ring for use with MIL-L-6387 or MIL-L-7808 fluids.
NAS1611	NAS1613 Class 1	-65 to 300	PREFORMED PACKING, O'Ring, PHOSPHATE ESTER RESISTANT. Dash numbers correspond to AS568A Universal Series.
NAS1612	NAS1613 Class 2	-65 to 300	PACKING PREFORMED, STRAIGHT THREAD TUBE FITTING BOSS, PHOSPHATE ESTER RESISTANT. Dash numbers correspond to MS28778
S9412	N/A	N/A	GARRETT PART NUMBERS: For O'Rings used in fuel systems. Blue in color.
S9413	N/A	N/A	GARRETT PART NUMBER: For O'Rings used in the propeller section of the engine. Blue in color.

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
MS28778-5
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	MS29513-238
MS29513-111	MS29513-338

O'RING KIT #5

10 pcs. of each

M83248/1-010	M83248/1-114
M83248/1-011	M83248/1-115
M83248/1-012	M83248/1-214
M83248/1-013	M83248/1-904
M83248/1-014	M83248/1-905
M83248/1-024	M83248/1-906
M83248/1-113	M83248/1-908

O'RING KIT #6

10 pcs. of each

AS3084-03	AS3085-028
AS3084-04	AS3085-041
AS3084-05	AS3085-113
AS3085-014	AS3208-04
AS3085-015	AS3209-009
AS3085-016	AS3578-251
AS3085-017	AS3582-012
AS3085-018	AS3582-013

ASSORTED O'RING KIT #1

10 pcs. of each

MS28778-2	MS28775-006	MS29512-02
MS28778-3	MS28775-007	MS29512-04
MS28778-4	MS28775-008	MS29512-05
MS28778-5	MS28775-009	MS29512-06
MS28778-6	MS28775-010	MS29512-08
MS28778-7	MS28775-011	MS29512-10
MS28778-8	MS28775-012	MS29512-12
MS28778-10	MS28775-013	
MS28778-12	MS28775-014	
	MS28775-015	
MS29513-010	MS29513-214	MS29513-238
MS29513-011	MS29513-232	MS29513-338

ASSORTED O'RING KIT #2

10 pcs. of each

MS28775-006	MS28778-2	M83248/1-010
MS28775-007	MS28778-3	M83248/1-011
MS28775-008	MS28778-4	M83248/1-012
MS28775-009	MS28778-5	M83248/1-013
MS28775-010	MS28778-6	M83248/1-014
MS28775-011	MS28778-7	M83248/1-015
MS28775-012	MS28778-8	M83248/1-016
MS28775-013	MS28778-10	M83248/1-017
MS28775-014	MS28778-12	M83248/1-018
MS28775-015	MS29512-02	M83248/1-113
MS29513-010	MS29512-04	M83248/1-904
MS29513-011	MS29512-05	M83248/1-905
MS29513-214	MS29512-06	M83248/1-906
MS29513-232	MS29512-08	M83248/1-908
MS29513-338	MS29512-10	
	MS29512-12	

ASSORTED O'RING KIT #3

This kit contains all parts from:

O'ring Kit #1
O'ring Kit #2
O'ring Kit #3

ASSORTED O'RING KIT #4

This kit contains all parts from:

O'ring Kit #1
O'ring Kit #2
O'ring Kit #3
O'ring Kit #4

LIGHTING - LAMPS & BULBS

SEALED BEAM LAMPS

Landing and Taxi Lighting



Sealed Beam Lamps

Quartz Lamps

4313
4509
4522
4551
4552
4553
4557
4559
4570

4580
4581
4587
4591
4594
4595
4596
4626

Q4509
Q4554
Q4559
Q4559X
Q4591
Q4566
Q4681
Q4631

MINIATURE & SUBMINIATURE BULBS

Panel, Warning and Tail Lighting



Lamp #

303
304
305
307
308
313
327

328
330
334
356
387
1495
1683

1777
1940
1495X
1939X
6838
6839
A4174-24
M6363/2-2

FUSES & FUSE HOLDERS

FUSES

Glass Enclosed



AGC SERIES

(1/4 x 1-1/4 inches)

Standard, Single Element, Glass tube, Fast-acting to protect sensitive instruments and radio.

Part #	Amps	Part #	Amps
AGC-1/8	1/8	AGC-5	5
AGC-1/4	1/4	AGC-7	7
AGC-1/2	1/2	AGC-7-1/2	7-1/2
AGC-3/4	3/4	AGC-10	10
AGC-1	1	AGC-15	15
AGC-1-1/2	1-1/2	AGC-20	20
AGC-2	2	AGC-25	25
AGC-3	3	AGC-30	30
AGC-4	4	AGC-35	35

MDL SERIES

(1/4 x 1-1/4 inches)

Slow Blow, Dual Element. Fuse link operates on very high overloads to avoid needless blows. Thermal cutout functions on low overload.

Slow Blow Type Part #	Amps	Slow Blow Type Part #	Amps
MDL-1/2	1/2	MDL-5	5
MDL-1	1	MDL-10	10
MDL-2	2	MDL-15	15
MDL-3	3	MDL-20	20
MDL-4	4	MDL-30	30

FUSE HOLDERS

HKP

Standard for 1/4" x 1-1/4" Fuses



HRJ

In-Line Fuseholder for SFE and 1/4" x various length fuses (Includes SFE-20 Fuse)



M39029 CONNECTOR CONTACTS



Part Number	Configuration	Size	Fits Series
M39029/1-100	PIN	16	MIL-T-81714 TERMINAL JUNCTION
M39029/1-101		16	
M39029/1-102		14	
M39029/1-103		12	
M39029/4-110		20	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/4-111	SOCKET	16	
M39029/5-115		20	
M39029/5-116		16	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/5-117		16	
M39029/5-118		12	
M39029/5-119		12	
M39029/10-141	SOCKET	20	MIL-C-83723 SER III MIL-C-83733
M39029/10-142		20	MIL-C-26482 SER II MIL-C-81703 SER III MIL-C-83723 SER I & III
M39029/11-144	PIN	22	MIL-C-81659 SERIES II R
M39029/11-145		20	
M39029/12-148	SOCKET	22	MIL-C-81569 SERIES II INACTIVE NEW DESIGN
M39029/12-149		20	
M39029/22-191	SOCKET	22	MIL-T-81714 TERMINAL JUNCTION SYSTEM
M39029/22-192		20	
M39029/22-193		16	
M39029/29-212	PIN	16	MIL-T-5015 SERIES MS3450 MIL-C-83723 SER II
M39029/29-213		12	
M39029/30-217	SOCKET	16	MIL-T-5015 SERIES MS3450 MIL-C-83733 SER II
M39029/30-218		16	
M39029/30-219		12	

Part Number	Configuration	Size	Fits Series
M39029/31-229	PIN	16	MIL-C-26482 SER I MIL-C-26500 MIL-C-26518
M39029/31-240	PIN	20	
M39029/31-241		20	
M39029/32-248	SOCKET	16	
M39029/32-259		20	
M39029/32-260		20	
M39029/56-348	SOCKET	22	MIL-C-38999 SERIES I, III, & IV
M39029/56-351		20	
M39029/56-352		16	
M39029/56-353		12	
M39029/57-354		22	MIL-C-24308 MIL-C-38999 SER II MIL-C-83733
M39029/57-357		20	
M39029/57-358		16	
M39029/57-359		12	
M39029/58-360	PIN	22	MIL-C-24308 MIL-C-38999 SER I-IV MIL-C-55302/69 MIL-C-83733
M39029/58-363		20	
M39029/58-364		16	
M39029/58-365		12	
M39029/63-368	SOCKET (SHIELDED)	20	MIL-C-38999 SERIES I, III, & IV
M39029/75-416	SOCKET (SHIELDED)	12	MIL-C-38999 SERIES I, III, & IV
M39029/75-417		12	
M39029/75-422		12	
M39029/76-424	PIN (SHIELDED)	16	MIL-C-38999 SERIES I, II, III, & IV

MS27488 CONNECTOR SEALING PLUGS



Part Number	Contact Size	Color Code
MS27488-22-1	22	Black
MS27488-20-1	20	Red
MS27488-16-1	16	Blue
MS27488-12-1	12	Yellow
MS27488-8-1	8	Red

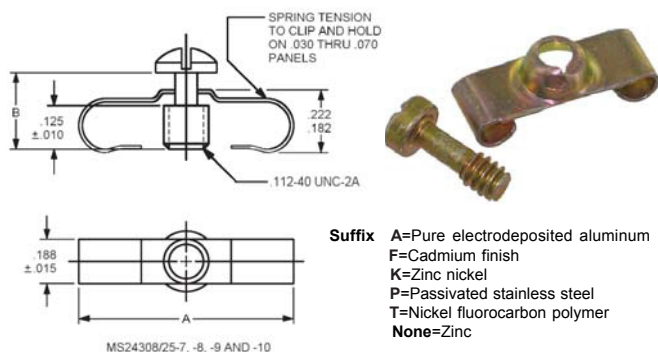
M81969 INSERTION/EXTRACTION TOOL



Part Number	Contact Size	Color Code
M81969/1-01	22	Green/White
M81969/1-02	20	Red/White
M81969/1-03	16	Blue/White
M81969/1-04	22D	Green/White
M81969/14-01	22	Green/White
M81969/14-02	20	Red/White
M81969/14-03	16	Blue/White
M81969/14-04	12	Yellow/White
M81969/14-10	20	Red/Orange
M81969/14-11	20	Red/White

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

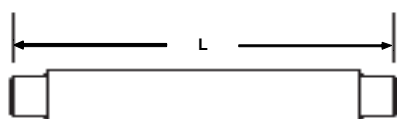
M24308/26-1F - Contains 2 jack screws, 4 flat washers, 2 lockwashers, and 2 nuts (see image below)

M24308/26-1Z - Contains 1 screw, 2 flat washers, 1 lockwasher and 1 nut

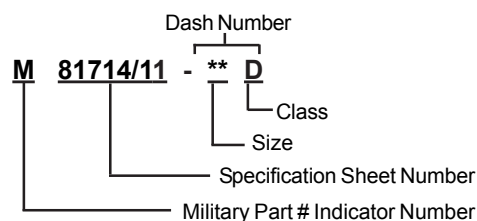


M81714/11- #D

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



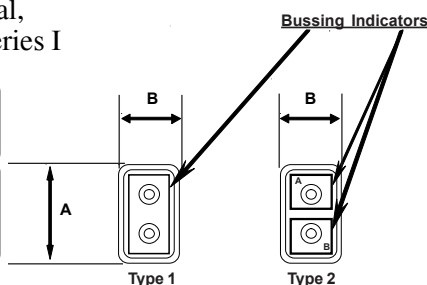
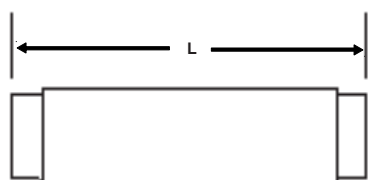
Part Number Example



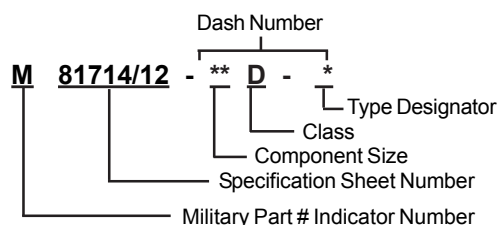
Part Number	A Dia. + .025	Body B Dia. Max	L Max	Contact Part Number	Installation/ Removal Tool
M81714/11-22D	.250	.225	1.552	M39029/1-100	M81969/14-02
M81714/11-20D	.250	.225	1.552	M39029/1-101	M81969/14-02
M81714/11-16D	.281	.256	1.922	M39029/1-102	M81969/14-03
M81714/11-12D	.344	.319	1.922	M39029/1-103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

M81714/12- #D

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



Part Number Example



Part Number	Type	Body				Contact Part Number	Installation/ Removal Tool
		A Dia. Max	B Dia. Max	C ± .01	L Max		
M81714/12-22D	1 or 2	.400	.275	.13	1.552	M39029/1-100	M81969/14-02
M81714/12-20D	1 or 2	.400	.275	.13	1.552	M39029/1-101	M81969/14-02
M81714/12-16D	1 or 2	.500	.300	.18	1.922	M39029/1-102	M81969/14-03
M81714/12-12D	1 or 2	.620	.370	.25	1.922	M39029/1-103	M81969/14-04

AIRCRAFT WIRE

Per MIL-W-22759/16

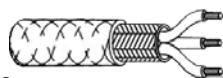
(-9 indicates white) (-0 indicates black)



Part #	AWG Size	Part #	AWG Size
M22759 / 16-22-9	22	M22759 / 16-12-9	12
M22759 / 16-20-9	20	M22759 / 16-10-9	10
M22759 / 16-18-9	18	M22759 / 16-8-9	8
M22759 / 16-16-9	16	M22759 / 16-6-9	6
M22759 / 16-14-9	14		

M27500 TEFZEL CABLE

Shielded & Jacketed, MIL-W-22759



M27500	Conductors	AWG Size
-16TG1T14	1	16
-18TG1T14	1	18
-20TG1T14	1	20
-20TG2T14	2	20
-22TG1T14	1	22
-22TG2T14	2	22
-22TG3T14	3	22

TERMINAL END SPLICE

Closed End Wire Cap.
PIDG Series,
Tin Plated Copper,
Nylon Insulated



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

D436

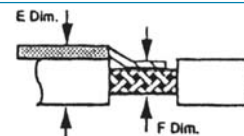
Mini-Seal
Crimp Splices



Part #	Gauge Size
D436-36	20-26
D436-37	16-20
D436-38	12-18

D142

Solder Sleeves



Part #	E Dim.	F Dim.
D142-50	.125	.055
D142-51	.200	.100
D142-52	.300	.160

SPIRAL WRAP

Per MIL-P-20693 Type I
Operating Temp - 85°C to 93°C



SPN - Natural/Nylon

SPB - Black/U/V Resistan Polyethylene

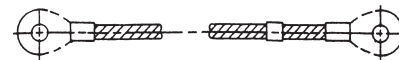
SPT - Teflon - Call for Pricing

SPN		SPB		Nom. O.D.	Wall Thickness	Pitch	Diameter
Old #	New #	Old #	New #				
SPN-1/8	SW-20	SPB-1/8	SW-40	.125	.015	1/16	1/2
SPN-1/4	SW-21	SPB-1/4	SW-41	.250	.025	9/32	2
SPN-3/8	SW-22	SPB-3/8	SW-42	.375	.035	3/8	3
SPN-1/2	SW-23	SPB-1/2	SW-43	.500	.035	1/2	4

MS25083

Bonding Jumpers

Call for prints if technical information is required.



MS25083	MS25083	MS25083	MS25083
1BB7	2AB6	2BC4	5BB8
1BB8	2AB7	2BC5	5BB9
2AA3	2AB8	2BC6	5BB10
2AA4	2BB2	2BC7	5BB12
2AA5	2BB3	2BC8	5BB15
2AA6	2BB4	2BC9	6DD5
2AA7	2BB5	5BB4	6DE7
2AA8	2BB6	5BB5	7AB10
2AB3	2BB7	5BB6	7BB6
2AB4	2BB8	5BB7	7BB8
2AB5	2BB10		

MS25274

Wire Cap



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

MS25171-#S

Nipple, Electrical



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

MS3367

Tie Wraps / Thomas & Betts
Clear Color or Black (T&B - Metal Clip)
For Clear use (-9), For Black use (-0)



MS3367	T & B Part #	MS3367	T & B Part #	Max Dia.	Length (inches)	Width	Tensile Strength
-1-9	TY25M	-1-0	TY25MX	1-3/4	7	.190	50 lb.
-2-9	TY28M	-2-0	TY28MX	4	14	.192	50 lb.
-3-9	TY27M	-3-0	TY27MX	3-1/2	13-1/8	.310	120 lb.
-4-9	TY23M	-4-0	TY23MX	5/8	3-1/2	.100	18 lb.
-5-9	TY24M	-5-0	TY24MX	1-1/4	5-1/4	.146	30 lb.
-6-9	TY29M	-6-0	TY29MX	8	30	.310	120 lb.
-7-9	TY253M	-7-0	TY253MX	3	11-3/8	.192	50 lb.

TY-Rap® Identification Cable Ties



TY551M



TY553M



TY546M

Part#	Max Dia.	Length	Marking Pad Size	Tensile Strength
TY551M	.625	3.60	1 x .313	18 lb.
TY553M	.625	4.00	.813 x .359	18 lb.
TY546M	1.75	7.25	5 x .875	50 lb.

TY-Rap® Mounting Head Cable Ties



TY533MX



TY534MX



TY535MX

Part#	Body Width	Length	Mounting Hole	Tensile Strength
TY533MX	.091	4.00	#4	18
TY534MX	.140	6.00	#8	40
TY535MX	.184	7.80	#10	50

Nylon 6/6 Weather Resistant Cable Ties

Recommended for outdoor use



Part#	Body Width	Length	Tensile Strength
TY5244MX	.140	14.50	30 lb.
TY526MX	.140	11.10	30 lb.
TY5272MX	.270	8.75	50 lb.

Potter & Brumfield Circuit Breakers

Series W23

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



Part #	Rating	Part #	Rating
W23-X1A1G-.5	1/2 amp	W23-X1A1G-15	15 amps
W23-X1A1G-1	1 amp	W23-X1A1G-20	20 amps
W23-X1A1G-2	2 amps	W23-X1A1G-25	25 amps
W23-X1A1G-3	3 amps	W23-X1A1G-30	30 amps
W23-X1A1G-5	5 amps	W23-X1A1G-35	35 amps
W23-X1A1G-7.5	7.5 amps	W23-X1A1G-40	40 amps
W23-X1A1G-10	10 amps	W23-X1A1G-50	50 amps

Potter & Brumfield Circuit Breakers

Series W58

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



Part #	Rating	Part #	Rating
W58-XC4C12A-1	1 amp	W58-XC4C12A-8	8 amps
W58-XC4C12A-2	2 amps	W58-XC4C12A-10	10 amps
W58-XC4C12A-3	3 amps	W58-XC4C12A-15	15 amps
W58-XC4C12A-4	4 amps	W58-XC4C12A-20	20 amps
W58-XC4C12A-5	5 amps	W58-XC4C12A-25	25 amps
W58-XC4C12A-7	7 amps	W58-XC4C12A-30	30 amps

Potter & Brumfield Circuit Breakers

Series W31

Combination single pole switch and circuit breaker



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

Klixon Circuit Breakers

Series 7277-2

Low amperage general application



Part #	Rating	Part #	Rating
7277-2-1/2	1/2 amp	7277-2-5	5 amps
7277-2-1	1 amp	7277-2-7-1/2	7.5 amps
7277-2-2	2 amps	7277-2-10	10 amps
7277-2-2-1/2	2.5 amps	7277-2-15	15 amps
7277-2-3	3 amps	7277-2-20	20 amps
7277-2-4	4 amps		

Klixon Circuit Breakers

Series 7274

Low Amperage
High Performance



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

MS3320 Circuit Breaker

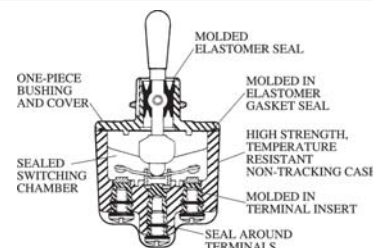
Series 2TC2,
Miniature,
Trip Free



Klixon Part #	MS #
2TC2-1	MS3320-1
2TC2-2	MS3320-2
2TC2-3	MS3320-3
2TC2-5	MS3320-5
2TC2-7.5	MS3320-7.5
2TC2-10	MS3320-10
2TC2-15	MS3320-15
2TC2-20	MS3320-20

MS24523 MS24524

Toggle Switch
Environmentally Sealed
Maintained and Momentary Toggle Action



MS24523 - 2 Position, 1 Pole			MS24524 - 2 Position, 2 Poles			MS24524 - 3 Position, 2 Poles			
MS24523	Keyway Position	Opposite Keyway	MS24524	Keyway Position	Opposite Keyway	MS24524	Keyway Position	Center 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 but ECAS stocks the series for older aircraft requiring older callout.

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

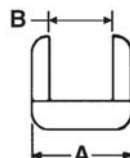


MS25041 With Dimmer	MS25041 Without Dimmer	Lens Color
-1	-5	Colorless
-2	-6	Red
-3	-7	Green
-4	-8	Yellow
-10	-11	Blue

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® TERMINALS

Sta-Kon® Nylon Insulated Ring - Insulation Grip



Part#	Wire Range	Bolt Hole
RZ22-4	26-22	#4
RZ22-6		#6
RZ22-8		#8
RZ22-10		#10
RA18-4	22-16	#4
RA18-6		#6
RA18-8		#8
RA18-10		#10
RA18-14		1/4
RB14-4	18-14	#4
RB14-6		#6
RB14-8		#8
RB14-10		#10
RB14-14		1/4
RC10-6	12-10	#6
RC10-8		#8
RC10-10		#10
RC10-14		1/4

Sta-Kon® Wristlock Disconnect



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

Vinyl Insulated Ring - Insulation Support



Part#	Alternate	Wire Range	Bolt Hole
18RA-6	RA857	22-16	#6
14RB-6	RB857	18-14	#6
14RB-8	RB867		#8
10RC-10	RC367	12-10	#10

Sta-Kon® Nylon Insulated Splices - Aircraft System Splices



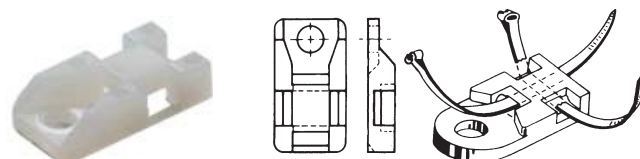
Part#	Wire Range
2RAA	22-18
2RBB	16-14
2RCC	12-10

Sta-Kon® Nylon Insulated Splices - Butt Type - Insulation Support



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

Ty-Rap® Two Direction Mounting Base



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

Nylon Insulated Ring



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

Non-Insulated Ring



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

MS25036

Ring Terminal, Insulated



MS25036	AMP #	Stud Size	Terminal Size	Style/Color
148	320553	#4	22 - 18 AWG	PIDG / RED
101	36149	#6	22 - 18 AWG	PIDG / RED
102	51863	#6	22 - 18 AWG	PIDG / RED
149	320551	#8	22 - 18 AWG	PIDG / RED
103	36153	#10	22 - 18 AWG	PIDG / RED
150	320571	1/4	22 - 18 AWG	PIDG / RED
104	320572	5/16	22 - 18 AWG	PIDG / RED
105	320573	3/8	22 - 18 AWG	PIDG / RED
152	324159	#4	16 - 14 AWG	PIDG / BLUE
106	320561	#6	16 - 14 AWG	PIDG / BLUE
153	51864-1	#8	16 - 14 AWG	PIDG / BLUE
108	51864-2	#10	16 - 14 AWG	PIDG / BLUE
154	320563	1/4	16 - 14 AWG	PIDG / BLUE
110	320564	3/8	16 - 14 AWG	PIDG / BLUE
156	320568	#8	12 - 10 AWG	PIDG / YELLOW
112	36161	#10	12 - 10 AWG	PIDG / YELLOW
157	320569	1/4	12 - 10 AWG	PIDG / YELLOW
113	320576	5/16	12 - 10 AWG	PIDG / YELLOW
115	322128	#10	8 AWG	AMPLI-BOND / RED
116	322049	1/4	8 AWG	AMPLI-BOND / RED
117	322003	5/16	8 AWG	AMPLI-BOND / RED
118	322004	3/8	8 AWG	AMPLI-BOND / RED
120	322051	1/4	6 AWG	AMPLI-BOND / BLUE
121	324048	5/16	6 AWG	AMPLI-BOND / BLUE
123	322053	1/4	4 AWG	AMPLI-BOND / YELLOW
124	324051	5/16	4 AWG	AMPLI-BOND / YELLOW
125	322011	3/8	4 AWG	AMPLI-BOND / YELLOW

M7928/5

Butt Splice, Knife Splice



Butt Splice
M7928/5-



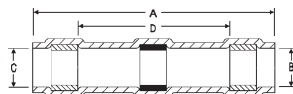
Knife Splice



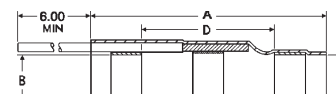
MIL #	AMP #	Wire Size	Style/ Color	Type
M7928/5-2	323975	24 - 20 AWG	PIDG / TRANS.	Butt Splice
M7928/5-3	320559	22 - 18 AWG	PIDG / RED	Butt Splice
M7928/5-4	320562	16 - 14 AWG	PIDG / BLUE	Butt Splice
M7928/5-5	320570	12 - 10 AWG	PIDG / YELLOW	Butt Splice
---	32446	22 - 18 AWG	PIDG / RED	Knife Splice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

M83519

Terminal Shield
Solder Style
Insulated Heat Shrinkable



M83519/1 (No wire)



M83519/2 (With wire)

Part #	A ±.07	B Min.	C Min.	D Min.	Part #	A ±.07	B Min.	C Min.	D Min.
M83519/1-1	.650	0.075	0.105	0.325	M83519/2-2	.650	0.105	0.145	0.325
M83519/1-2	.650	0.105	0.145	0.325	M83519/2-3	.650	0.170	0.200	0.325
M83519/1-3	.650	0.170	0.200	0.325	M83519/2-4	.750	0.235	0.255	0.325
M83519/1-4	.750	0.235	0.255	0.325	M83519/2-5	.750	0.275	0.300	0.325
M83519/1-5	.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

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

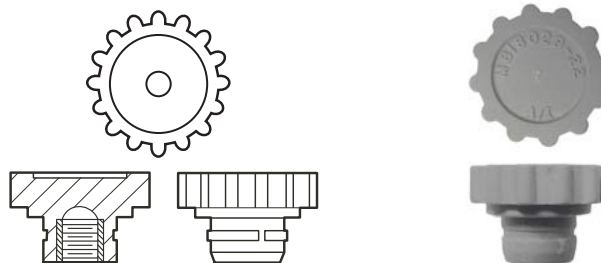
Assembly No. With Knobs	Stud Size	Assembly No. Without Knobs
MS18029-1S(N)	.138-32	MS18029-11S(N)
MS18029-2S(N)	.1900-32	MS18029-12S(N)
MS18029-3S(N)	.2500-28	MS18029-13S(N)



MS18029

Nut Assembly for MS27212

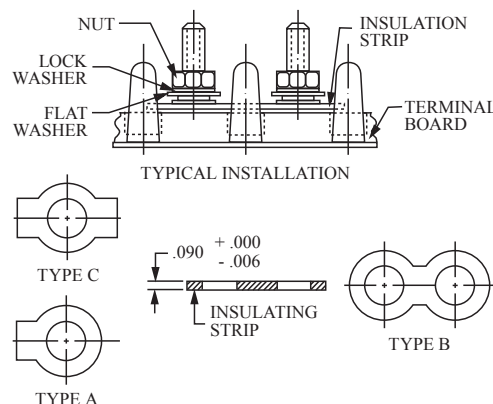
Part #	Thread
MS18029-21	.138-32
MS18029-22	.1900-32
MS18029-23	.2500-28



MS3373

Insulating Mounting
Nut Strip for MS27212

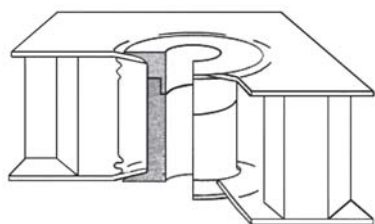
MS3373	Used on MS27212
A1 B1	-1
A2 B2	-2
A3 B3	-3



PANEL INSERTS

102 Series - Thru Bolt

Typical Assembly



Series 102, Thru-Bolt Plug & Sleeve assembly.

Head Style	D - Flush	F - Non-Flush	C - Flush, C'sink Hole
Plug			
Sleeve			

* See Table B

Table A

Size	A Hole Dia	B Body Dia	C Head Dia	D C'Sink Dia	E° Head Angle
8	.169	.278	.500	.332	13°
10	.194	.309	.625	.382	13°

Part Number Selection

Two part numbers-Sleeve & Plug-are required.

Example:

TYE S 1 0 2 F 10 - 08

TYE P 1 0 2 C 10 - 1

- Length Dash Number: See Table B
- Size: See Table A
- Head Style: C = Flush Head, Countersunk Hole
D = Flush Head
F = Non-Flush Head
- Type: Thru-Bolt
- Material: Q = Aluminum Alloy
- Part Type: P = Plug, S = Sleeve

Plug and Sleeve Dash Number Selection

Select Sleeve and Plug Dash Number from Table B by determining the thickness closest to the panel being used.

Example:

Requirements: #10 Thru-Bolt, Aluminum Alloy, Non-Flush Head for a .375 overall panel.

From table select: -0 Plug = TYEP102F10-0

-06 Sleeve = TYES102F10-06

Table B

	Plug Dash #	-0	-1
Sleeve Dash #	H	.085	.116
-04	.165	.250	.281
-06	.290	.375	.406
-08	.415	.500	.531
-10	.540	.625	.656
-12	.665	.750	.781

= Panel Thickness

Young Eng. Part #	Delron Part #	Part Type	Head Style	G Height	Hole Diameter
TYEP102C10-0	P102C10-0	Plug	Flush, C'Sunk Hole	.085	.194
TYEP102D10-0	P102D10-0	Plug	Flush	.085	.194
TYEP102D10-1	P102D10-1	Plug	Flush	.116	.194
TYEP102F10-0	P102F10-0	Plug	Non-Flush	.085	.194
Young Eng. Part #	Delron Part #	Part Type	Head Style	H Height	Hole Diameter
TYES102D10-04	S102D10-04	Sleeve	Flush	.165	.194
TYES102D10-06	S102D10-06	Sleeve	Flush	.290	.194
TYES102D10-08	S102D10-08	Sleeve	Flush	.415	.194
TYES102D10-10	S102D10-10	Sleeve	Flush	.540	.194
TYES102F10-04	S102F10-04	Sleeve	Non-Flush	.165	.194
TYES102F10-06	S102F10-06	Sleeve	Non-Flush	.290	.194
TYES102F10-08	S102F10-08	Sleeve	Non-Flush	.415	.194

NAS1130

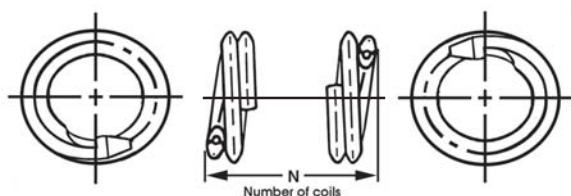
Tangless Insert, Helical Coil
Screw Thread, Free Running, Self-Locking
Type 304 Corrosion Resistant Steel



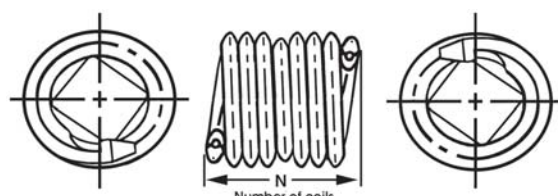
No Letter after the First Dash # designates: Free Running
"L" after the First Dash # designates: Self-Locking
Add a "D" after the Second Dash # to designate: Dry Film Lubricant
Add a "P" after the Second Dash # to designate: Cadmium Plating
No Letter after the Second Dash # designates: No Finish

Insert Color Identification:

- No Finish, Free Running: None
- No Finish, Self-Locking: Red (Dye)
- Dry Film Lube, Free Running: Dark Gray
- Dry Film Lube, Self-Locking: Dark



Free Running Insert



Self-Locking Insert

* Note - Length dimensions are for reference only

Nominal Thread Size	1 - Diameter Nom. Length		1.5 - Diameter Nom. Length		2 - Diameter Nom. Length		2.5 - Diameter Nom. Length		3 - Diameter Nom. Length	
	Length	NAS1130	Length	NAS1130	Length	NAS1130	Length	NAS1130	Length	NAS1130
.086-56	.086	-02-10 -02L10	.129	-02-15 -02L15	.172	-02-20 -02L20	.215	-02-25 ---	.258	-02-30 ---
.112-40	.112	-04-10 -04L10	.168	-04-15 -04L15	.224	-04-20 -04L20	.280	-04-25 ---	.336	-04-30 ---
.138-32	.138	-06-10 -06L10	.207	-06-15 -06L15	.276	-06-20 -06L20	.345	-06-25 ---	.414	-06-30 -06L30
.164-32	.164	-08-10 -08L10	.246	-08-15 -08L15	.328	-08-20 ---	.410	-08-25 -08L25	.492	-08-30 ---
.190-32	.190	-3-10 -3L10	.285	-3-15 -3L15	.380	-3-20 -3L20	.475	-3-25 -3L25	.570	-3-30 -3L30
.250-20	.250	-4-10 -4L10	.375	-4-15 -4L15	.500	-4-20 ---	.625	-4-25 ---	.750	-4-30 ---
.250-28	.250	-4F10 -4FL10	.375	-4F15 -4FL15	.500	-4F20 -4FL20	.625	-4F25 ---	.750	-4F30 -4FL30

NAS1394

Insert, Lightweight
Self-Locking &
Non Self-Locking,
Threaded Metal

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

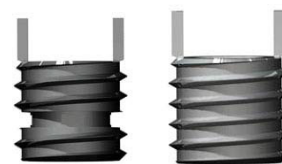


Internal Thread	External Thread	Length	NAS1394	NAS1394
.1640-32	.2500-20	.250	C08	C08L
.1900-32	.3125-18	.3125	C3	C3L
.2500-28	.3750-16	.375	C4	C4L
.3125-24	.4375-14	.4375	C5	C5L

NAS1395

Insert, Heavy Duty
Self-Locking &
Non Self-Locking,
Threaded Metal

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



Internal Thread	External Thread	Length	NAS1395
.1380-32	.2500-20	.250	C06L
.1640-32	.3125-18	.3125	C08L
.1900-32	.3750-16	.3125	C3L
.2500-28	.4375-14	.375	C4L

MS21209

Helicoil Insert

"C" indicates Coarse Thread

"F" indicates Fine Thread

"L" indicates Dry Film Lube

"P" indicates Cadmium Plating



Coarse Thread Size	Length	MS21209	Length	MS21209	Length	MS21209	Length	MS21209
.086-56	.086	C0210	.129	C0215	.172	C0220	.215	C0225
.112-40	.112	C0410 C0410L C0410P	.168	C0415 C0415L C0415P	.224	C0420 C0420L C0420P	.280	C0425 C0425L C0425P
.138-32	.138	C0610 C0610L C0610P	.207	C0615 C0615L C0615P	.276	C0620 C0620L C0620P	.345	C0625 C0625L C0625P
.164-32	.164	C0810 C0810L C0810P	.246	C0815 C0815L C0815P	.328	C0820 C0820L C0820P	.410	C0825 C0825L C0825P
.190-24	.190	C1-10	.285	C1-15	.380	C1-20	.475	C1-25
.250-20	.250	C4-10	.375	C4-15	.500	C4-20	.625	C4-25

Fine Thread Size	Length	MS21209	Length	MS21209	Length	MS21209	Length	MS21209
.138-40	.138	F0610	.207	F0615	.276	F0620	.345	F0625
.164-36	.164	F0810	.246	F0815	.328	F0820	.410	F0825
.190-32	.190	F1-10 F1-10L F1-10P	.285	F1-15 F1-15L F1-15P	.380	F1-20 F1-20L F1-20P	.475	F1-25 F1-25L F1-25P
.250-28	.250	F4-10 F4-10L F4-10P	.375	F4-15 F4-15L F4-15P	.500	F4-20 F4-20L F4-20P	.625	F4-25 F4-25L 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

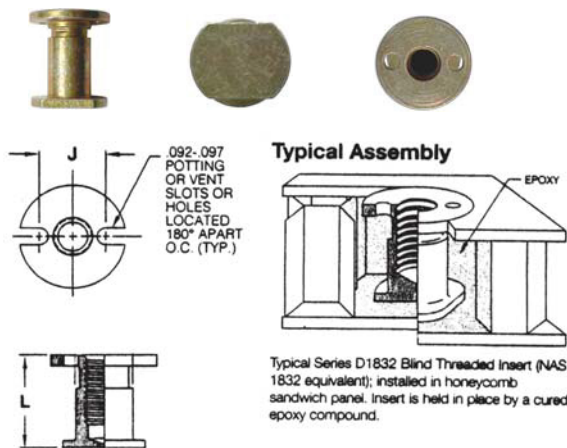
INSERTS

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	J
NAS1832-08-3	.1640-32	.375	.367
NAS1832-08-3M		.375	
NAS1832-08-4		.500	
NAS1832-08-6		.750	
NAS1832-3-3	.1900-32	.375	.367
NAS1832-3-3M		.375	
NAS1832-3-4		.500	
NAS1832-3-5		.625	
NAS1832-3-6		.750	
NAS1832-3-7		.875	
NAS1832-4-4	.2500-28	.500	.467

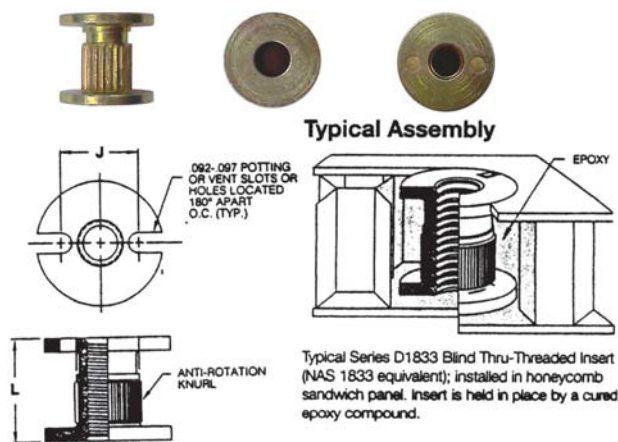


NAS1833 INSERT

Thru Threaded / Sandwich Panel

No Letter after Basic Part # indicates Carbon Steel
Add "A" after Basic Part # for Aluminum
Add "C" after Basic Part # for Corrosion Resistant

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

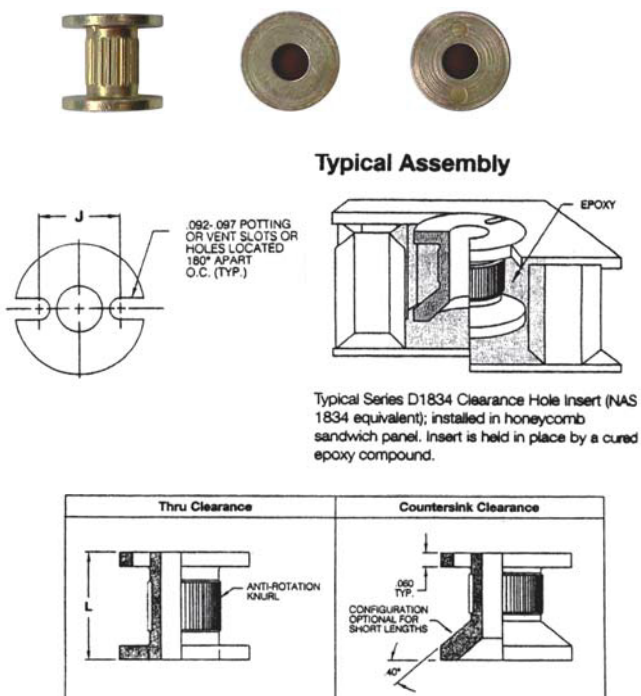


NAS1834 INSERT

Countersunk and Thru Clearance Hole Sandwich Panel

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

Part #	Clearance Hole	Length	J
NAS1834-08-250	.168 - .174	.250	.367
NAS1834-08K250		.250	
NAS1834-08K375		.375	
NAS1834-08-500		.500	
NAS1834-08K500		.500	
NAS1834-3-250	.195 - .201	.250	.367
NAS1834-3K250		.250	
NAS1834A3-250		.250	
NAS1834-3-375		.375	
NAS1834-3K375		.375	
NAS1834-3K400		.400	
NAS1834-3-500		.500	
NAS1834-3K500		.500	
NAS1834-3K750		.750	
NAS1834-4-375	.256 - .263	.375	.467
NAS1834-4-500		.500	
NAS1834-4K500		.500	
NAS1834-4-750		.750	
NAS1834-4K750		.750	



INSERTS

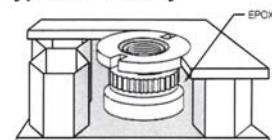
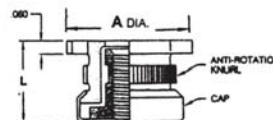
NAS1835 INSERT

Molded In, Blind Threaded Floating Sandwich Panel

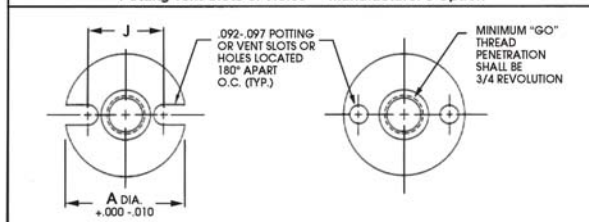
No Letter after Basic Part # indicates Carbon Steel
"A" after Basic Part # indicates Aluminum Alloy Housing
"C" indicates Corrosion Resistant
"M" indicates Solid Film Lubricant



Typical Assembly



Potting Vent Slots or Holes — Manufacturer's Option



Part #	Thread	A	J	L
NAS1835-08	.1640-32	.685	.500	.37
NAS1835C08				
NAS1835-3M	.1900-32	.685	.500	.43
NAS1835A3				
NAS1835-3				

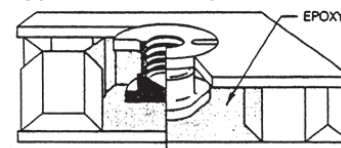
NAS1836 INSERT

Blind Threaded/Lightweight, Sandwich Panel

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

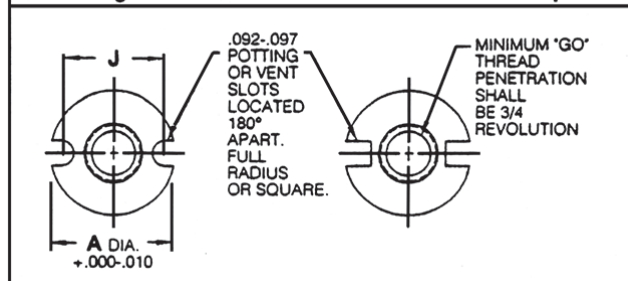


Typical Assembly



Typical Series D1836 Lightweight Threaded Insert (NAS 1836 equivalent); installed in honeycomb sandwich panel. Insert is held in place by a cured epoxy compound.

Potting Vent Slots or Holes — Manufacturer's Option



Part #	Thread	Length
NAS1836-06-07	.1380-32	.219
NAS1836-06-08		.250
NAS1836-06-09		.281
NAS1836-06-11		.343
NAS1836-06-12		.375
NAS1836-06-14		.437
NAS1836-06-15		.469
NAS1836-06-16		.500
NAS1836-08-07	.1640-32	.219
NAS1836-08-08		.250
NAS1836-08-09		.281
NAS1836-08-10		.312
NAS1836-08-11		.343
NAS1836C08-11		.343
NAS1836-08-12		.375
NAS1836-08-13		.406
NAS1836-08-14		.437
NAS1836-08-15		.465
NAS1836-08-16		.500
NAS1836-08-20		.620
NAS1836-3-07	.1900-32	.219
NAS1836-3C07		.219
NAS1836-3-08		.250
NAS1836-3-09		.281
NAS1836-3-10		.312
NAS1836-3-11		.343
NAS1836-3-12		.375
NAS1836C3-12		.375
NAS1836-3-13		.406
NAS1836-3-14		.437
NAS1836-3-16		.500
NAS1836-3-18		.563
NAS1836-3-20		.620

HOSE CLAMPS

QS200M#S

All Stainless
Slotted Safety Collar



QS200M#H

All Stainless
Slotted Hex Head Screw



Diameter		QS200M#S	QS200M#H
Min	Max	Dash #	Dash #
7/16	25/32	06S	06H
1/2	29/32	08S	08H
9/16	1-1/16	10S	10H
11/16	1-1/4	12S	12H
13/16	1-1/2	16S	16H
15/16	1-3/4	20S	20H
1-1/16	2	24S	24H
1-5/16	2-1/4	28S	28H
1-9/16	2-1/2	32S	32H
1-13/16	2-3/4	36S	36H
2-1/16	3	40S	40H
2-5/16	3-1/4	44S	44H
2-9/16	3-1/2	48S	48H
2-13/16	3-3/4	52S	52H
3-1/16	4	56S	56H
3-5/16	4-1/4	60S	60H
3-9/16	4-1/2	64S	64H
4-1/16	5	72S	72H
4-5/16	5-1/2	80S	80H
5-1/8	6	88S	88H
5-9/16	6-1/2	96S	96H

HOSE CLAMPS

Miniature



Diameter		Heavy Duty	Stainless
Min	Max	Part #	Part #
7/32	5/8	6504	6604
7/16	25/32	6506	6606
1/2	29/32	6508	6608
9/16	1-1/16	6510	6610

AN737 HOSE CLAMPS



Diameter		AN737TW
Min	Max	
7/16	11/16	22
1/2	3/4	24
9/16	13/16	26
11/16	15/16	30
13/16	1-1/16	34
15/16	1-3/16	38
61/64	1-3/8	44
1	1-7/16	46
1-5/64	1-1/2	48
1-21/64	1-3/4	56
1-3/8	1-13/16	58
1-5/8	2-1/16	66
1-7/8	2-5/16	74
2-1/8	2-9/16	82
2-13/32	2-27/32	91
2-5/8	3-1/16	98
2-29/32	3-11/32	107
3-1/8	3-9/16	114

HOSE CLAMPS

QS100M#S

Carbon Steel
Slotted Safety Collar



QS100M#H

Carbon Steel
Slotted Hex Head Screw

Diameter		QS100M#S	QS100M#H
Min	Max	Dash #	Dash #
7/16	25/32	C A N C E L L E D S E R I E S -	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

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 CLAMP

Aluminum Band,
Chloroprene Cushion (212°F)



To Fit Diameter	MS21919WDG	To Fit Diameter	MS21919WDG
1/8	2	1-5/16	21
3/16	3	1-3/8	22
1/4	4	1-7/16	23
5/16	5	1-1/2	24
3/8	6	1-9/16	25
7/16	7	1-5/8	26
1/2	8	1-11/16	27
9/16	9	1-3/4	28
5/8	10	1-13/16	29
11/16	11	1-7/8	30
3/4	12	2	32
13/16	13	2-1/8	34
7/8	14	2-3/16	35
15/16	15	2-1/4	36
1	16	2-3/8	38
1-1/16	17	2-1/2	40
1-1/8	18	2-21/32	42
1-3/16	19	2-3/4	44
1-1/4	20	3	48

MS21919WH

Steel Band,
White Silicone Cushion
(400°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

Aluminum 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

AN742D

Clamp, Plain, Steel,
"D" after Base# is Aluminum



To Fit Diameter	AN742	AN742D
1/8	2	2
3/16	3	3
1/4	4	4
5/16	5	5
3/8	6	6
7/16	7	7
1/2	8	8
9/16	9	9
5/8	10	10
11/16	11	11
3/4	12	12

M85052/2

Clamp, Loop
Fluid Resistant, Tube



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

AN735D

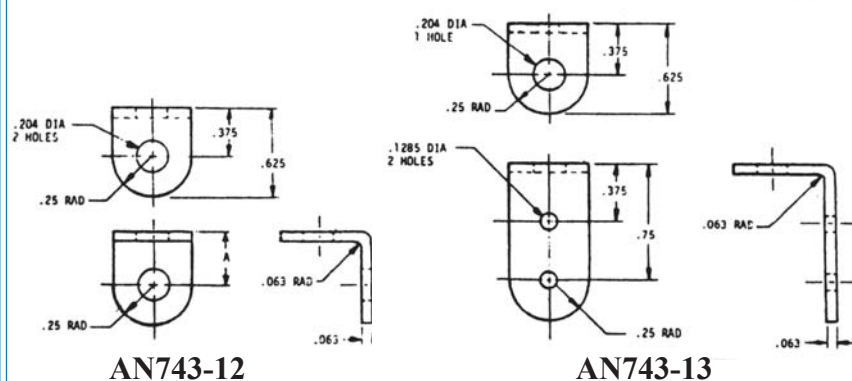
Clamp Loop
Type Bonding
Aluminum



Fits Dia.	AN735D	Fits Dia.	AN735D
.125	2	1.25	18
.1875	3	1.88	19
.250	4	1.25	20
.313	5	1.35	22
.375	6	1.50	24
.4375	7	1.625	26
.500	8	1.688	27
.625	10	1.750	28
.688	11	1.875	30
.750	12	2.000	32
1.00	16	2.500	40

AN743

Bracket
Support Clamp



12-02588

Adel Clamp Keeper
Spring steel, notched on both ends.
Allows mechanic to thread a nut
onto the screw much easier than
without this important tool.



MS25281

Wire Loop Clamp,
Plastic

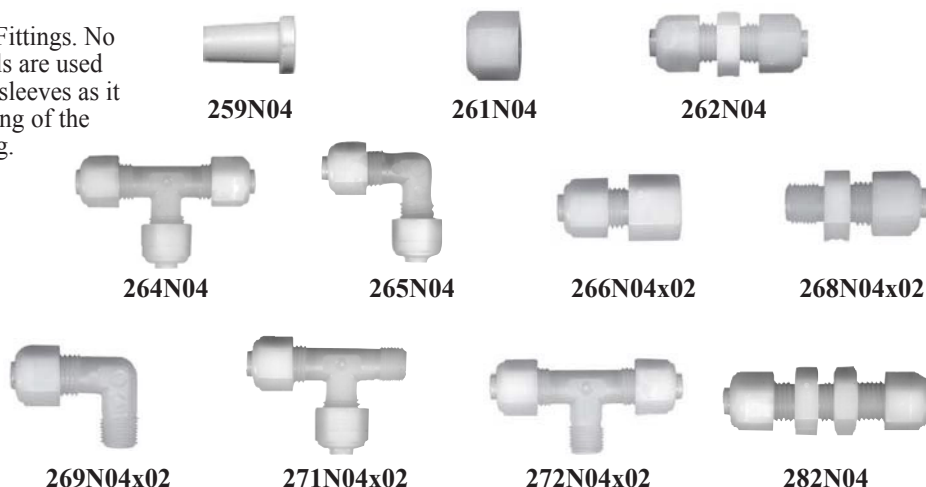


Dia.	MS25281	Dia.	MS25281
1/8	R2	5/8	R10
3/16	R3	11/16	R11
1/4	R4	3/4	R12
5/16	R5	13/16	R13
3/8	R6	7/8	R14
7/16	R7	15/16	R15
1/2	R8	1	R16
9/16	R9	1-1/8	R18

NYLON FITTINGS

Imperial Eastman Nylo-Seal Flareless Tube Fittings. No wrenches, flaring tools, benders or other tools are used for installation. The nut revolves around the sleeves as it is tightened, prevented twisting and weakening of the plastic tubing. For use with Poly-Flow tubing.

Part No.	Description
259N04	Insert
261N04	Nut/Sleeve
262N04	Union
264N04	Union Tee
265N04	Union Elbow
266N04x02	Female Connector
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-Flow tubing.

Part No.	Description
261P04	Nut/Sleeve
262P04	Union
264P04	Union Tee
266P04x02	Female Connector
268P04x02	Male Connector
269P04x02	Male Elbow
272P04x02	Male Branch Tee



POLY-FLOW TUBING

Imperial Eastman Poly-Flo Tubing. No wrenches, flaring tools, benders or other tools are used for installation. To be used with Imperial Eastman Nylon and Brass Fittings.

Part No.	Description
44PN	Clear Poly-Flo Tubing
44PB	Blue Poly-Flo Tubing
44PGN	Green Poly-Flo Tubing
44PO	Orange Poly-Flo Tubing



POLY-FLOW TUBE CUTTER

The "Snip," plastic tube and hose shear is a compact tool designed to evenly cut Poly-Flo tubing. Shear is spring loaded with a replaceable hardened steel blade.

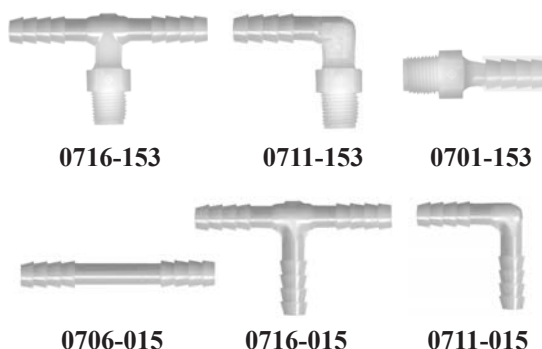
Part No.	Description
307-FP	Poly-Flo Tube Cutter



NYLON INSERT FITTINGS

Used with 1/4" hose or tubing.

Part No.	Description
0716-153	Tee Connector
0711-153	Elbow Connector
0701-153	Inline Connector
0716-015	Tee
0711-015	Elbow
0706-015	Inline



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

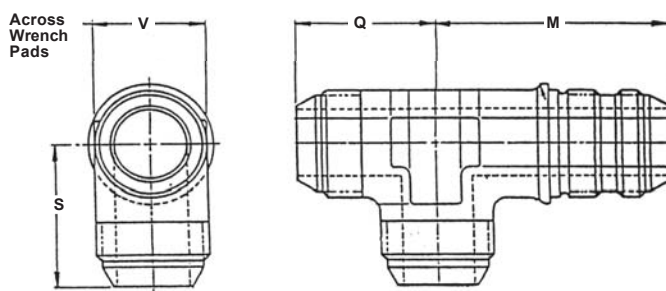
37° Flared Tube, Bulkhead

Tee / Bulkhead on Run

AN804D# (Aluminum)

AN804# (Steel)

AN804J# (Corrosion Resistant)



Dash No. AN804	Tube O.D.	Thread Size (Ref.)	M -.047	Q -.047	S -.047	V
2	.125	.312-24	1.406	.766	.828	.312
3	.188	.375-24	1.437	.828	.891	.375
4	.250	.437-20	1.578	.891	.953	.437
5	.312	.500-20	1.609	.953	1.016	.500
6	.375	.562-18	1.797	1.062	1.078	.562
8	.500	.750-16	2.094	1.250	1.344	.750
10	.625	.875-14	2.375	1.453	1.547	.875
12	.750	1.062-12	2.656	1.656	1.766	1.602

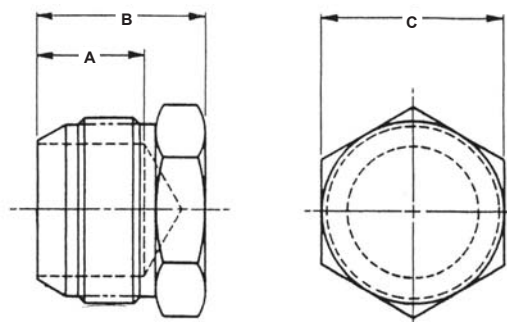
AN806-PRESSURE PLUG

37° Flared Tube

AN806D# (Aluminum)

AN806# (Steel)

AN806J# (Corrosion Resistant)



Dash No. AN806	Tube O.D.	Thread Size (Ref.)	A	B	C
2	1/8	5/16 - 24	15/32	41/64	.438
3	3/16	3/8 - 24		43/64	
4	1/4	7/16 - 20		47/64	
5	5/16	1/2 - 20	17/32	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

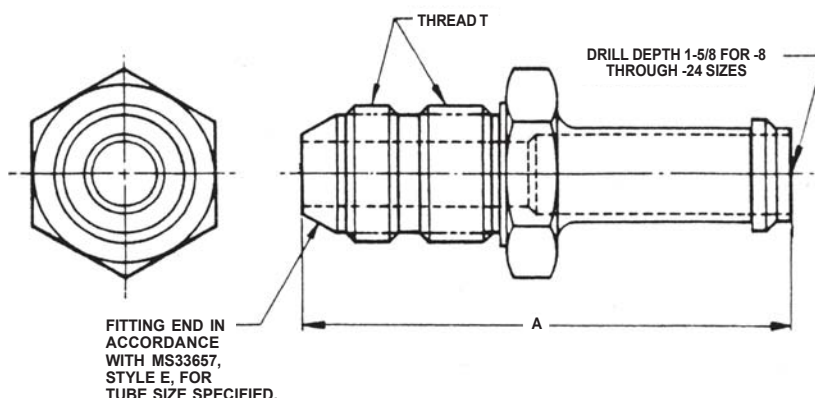
AN807-ADAPTER

Straight, Tube to Hose

AN807-#D (Aluminum)

AN807-# (Copper Alloy)

AN807-#J (Corrosion Resistant)



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

AN814-BLEEDER PLUG

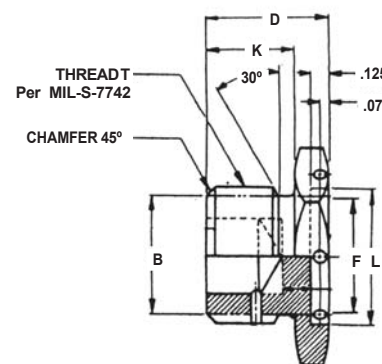
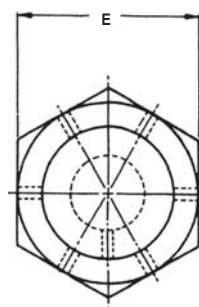
Screw Thread

AN814-#D (Aluminum)

AN814-# (Steel)

AN814-#J (Corrosion Resistant)

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



Dash No. AN814	Tube O.D.	Thread Size (Ref.)	B Dia.	D	E	F Dia. +.002 -.003	K	L
2	1/8	5/16-24	7/32	35/64	.563	+.004	.250	5/16
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	7/16
5	5/16	1/2-20	13/32		.750		.427	1/2
6	3/8	9/16-18	15/32	23/32	.813		.482	27/64
8	1/2	3/4-16	5/8	25/32	1.000	+.005	.660	15/32
10	5/8	7/8-14	3/4		1.125		.773	17/32
12	3/4	1- 1/16-12	15/16		1.375		.945	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	+.016	1.507	1-5/8

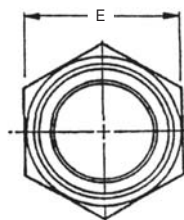
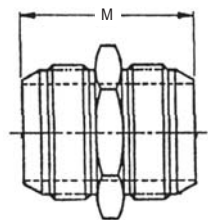
AN815-UNION

37° Flare, Male to Male

AN815-#D (Aluminum)

AN815-# (Steel)

AN815-#J (Corrosion Resistant)



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

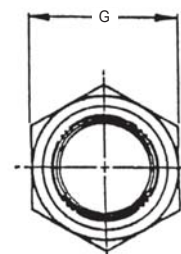
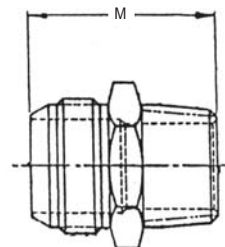
AN816-ADAPTER

Straight, Pipe to 37° Flared

AN816-#D (Aluminum)

AN816-# (Steel)

AN816-#J (Corrosion Resistant)



Dash No. AN816	Tube O.D.	THD P AMPT +016	Thread T (Ref.)	G		M +016
2	1/8	.125	.3125-24	.438	+.003 -.004	1.016
3	3/16		.3750-24			1.047
4	1/4		.4375-20			.500
4-4		.250	.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		1.187
6		.250		.750		1.375
6-6		.375				1.406
6-8		.500				.875
7	1/2	.250	.7500-16	.813		+.005
8		.375			1.828	
10	5/8	.500	.8750-14	.938	1.844	
10-12		.750			1.953	
12-8	3/4	.500	1.0625-12	1.125	2.187	
12		.750			2.031	
12-16		1.000			2.219	
16-12	1	.750	1.3125-12	1.375		
16		1.000				

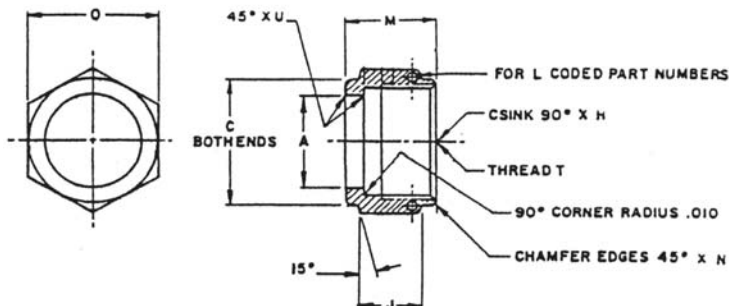
AN818-NUT

Flared Tube Nut

AN818-#D (Aluminum)

AN818-# (Steel)

AN818-#J (Corrosion Resistant)



Dash No. AN818	Tube O.D.	Thread T MIL-S-8879	A Dia. +.003 -.000	C Dia. +.000 -.010	J	M	O
2	.125	.3125-24	.180	.375	.312	.542	.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	.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

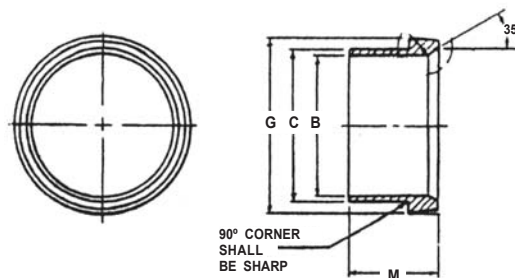
MS20819-SLEEVE

Flared Tube Fitting

MS20819-#D (Aluminum)

MS20819-# (Steel)

MS20819-#J (Corrosion Resistant)



Dash No. MS20819	Tube O.D.	B Dia. +.003 -.000	C Dia. +.000 -.010	G Dia. +.000 -.010	M +.016
2	1/8	.130	.172	.267	.344
3	3/16	.193	.234	.329	.406
4	1/4	.255	.297	.383	.438
5	5/16	.318	.366	.445	.500
6	3/8	.380	.432	.502	.562
8	1/2	.505	.562	.682	.656
10	5/8	.631	.690	.797	.688
12	3/4	.756	.826	.972	.781
16	1	1.006	1.081	1.222	

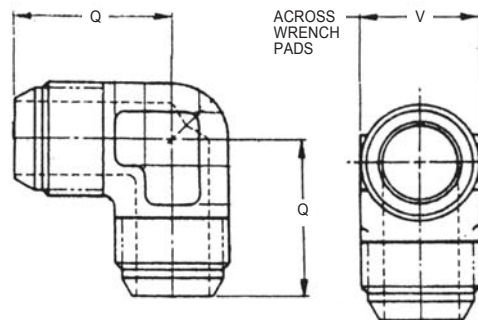
AN821 ELBOW-90°

37° Flared Tube

AN821-#D (Aluminum)

AN821-# (Steel)

AN821-#J (Corrosion Resistant)



Dash No. AN821	Tube O.D.	Thread T	Q	V
2	1/8	5/16-24	49/64	5/16
3	3/16	3/8-24	53/64	3/8
4	1/4	7/16-20	57/64	7/16
5	5/16	1/4-20	61/64	1/2
6	3/8	9/16-18	1-1/16	9/16
8	1/2	3/4-16	1-1/4	3/4
10	5/8	7/8-14	1-29/64	7/8
12	3/4	1-1/16-12	1-21/32	1-1/16

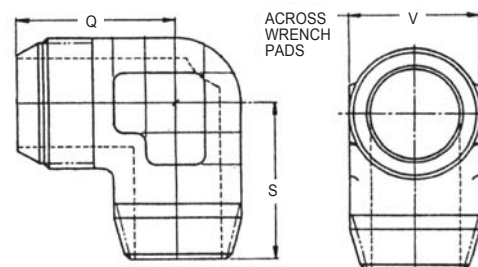
MS20822 ELBOW-90°

Pipe to 37° Flared Tube

MS20822-#D (Aluminum)

MS20822-# (Steel)

MS20822-#J (Corrosion Resistant)



Dash No. MS20822	Thread T (REF)	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V
			THD P ANPT			
2	.312-24	1/8	1/8	.766	.719	.312
3	.375-24	3/16		.828		.375
4	.437-20	1/4		.891		.438
4-4			1/4	1.031	1.062	.562
5	.500-20	5/16	1/8	.953	.781	.500
5-4			1/4	1.031	1.062	.562
6-2			1/8		.875	
6	.562-18	3/8	1/4	1.062	1.094	
6-6			3/8	1.188	1.188	.750
6-8			1/2	1.312	1.438	.875
8	.750-16	1/2	3/8	1.250	1.219	.750
10	.875-14	5/8	1/2	1.453	1.469	.875
10-12			3/4			
12-8	1.062-12	3/4	1/2	1.625	1.562	1.062
12			3/4	1.656	1.594	
12-16			1	1.781	1.938	1.312
16-12	1.312-12	1	3/4		1.719	
16			1	1.812	1.969	

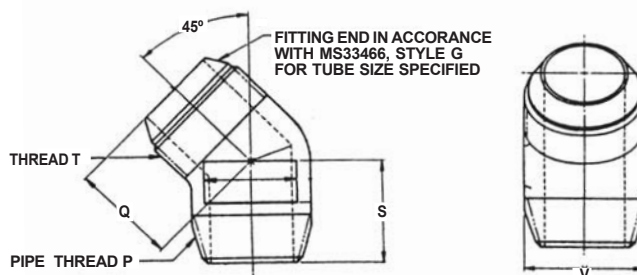
MS20823 ELBOW - 45°

Pipe to 37° Flared Tube

MS20823-#D (Aluminum)

MS20823-# (Steel)

MS20823-#J (Corrosion Resistant)



Dash No. MS20823	Thread T (REF)	Tube O.D.	Pipe Thread End		Q +.047 -.000	S	V
			THD P ANPT	MS33677 STYLE			
2	5/16-24	1/8	1/8	B	.641	.500	.312
3	3/8-24	3/16					.375
4	7/16-20	1/4		A	.703	.625	.438
5	1/2-20	5/16			.750		.500
6	9/16-18	3/8	1/4		.812	.844	.562
8	3/4-16	1/2	3/8		.969	.938	.750
10	7/8-14	5/8	1/2	1.094	1.156	.875	
12	1-1/16-12	3/4	3/4	B	1.266	1.188	1.062
16-12	1-5/16-12	1		A	1.453	1.250	1.312
16				B		1.469	

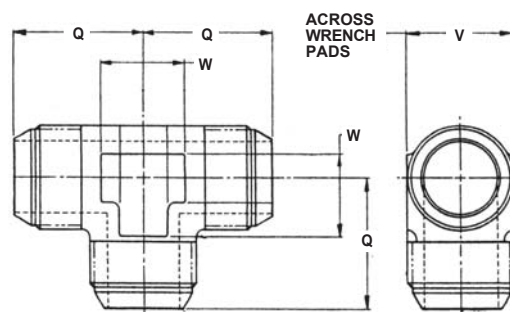
AN824 TEE

37° Flared Tube

AN824-#D (Aluminum)

AN824-# (Steel)

AN824-#J (Corrosion Resistant)



Dash No. AN824	Tube O.D.	Thread T (REF)	Q +3/64 -0	W Approximate	V Approximate
2	1/8	5/16-24	47/64	5/16	5/16
3	3/16	3/8-24	51/64	3/8	3/8
4	1/4	7/16-20	55/64		7/16
5	5/16	1/2-20	59/64	15/32	1/2
6	3/8	9/16-18	1-1/32	1/2	9/16
8	1/2	3/4-16	1-7/32	11/16	3/4
10	5/8	7/8-14	1-27/64	25/32	7/8
12	3/4	1-1/16-12	1-5/8	29/32	1-1/16
16	1	1-5/16-12	1-25/32	1-3/32	1-5/16

MS20825-TEE

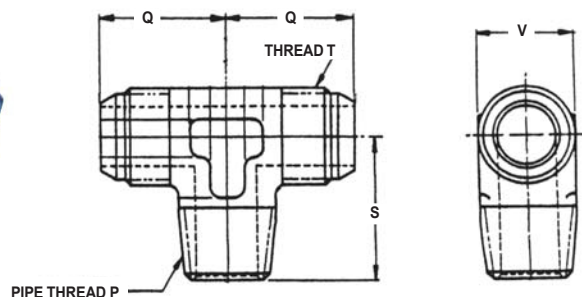
Pipe to Tube

Pipe Thread on Side

MS20825-#D (Aluminum)

MS20825-# (Steel)

MS20825-#J (Corrosion Resistant)



Dash No. MS20825	Thread T (REF)	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			THD P ANPT			
2	5/16-24	1/8	1/8	.734	.688	.312
3	3/8-24	3/16		.797		.375
4	7/16-20	1/4		.859		.438
5	1/2-20	5/16		.922		.500
6	9/16-18	3/8	1/4	1.031	1.062	.562
8	3/4-16	1/2	3/8	1.219	1.188	.750
10	7/8-14	5/8	1/2	1.422	1.438	.875
12	1-1/16-12	3/4	3/4	1.652	1.562	1.062

MS20826-TEE

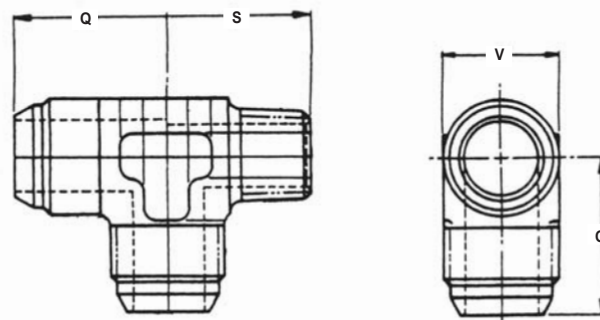
Pipe to Tube

Pipe Thread on Run

MS20826-#D (Aluminum)

MS20826-# (Steel)

MS20826-#J (Corrosion Resistant)



Dash No. MS20826	Thread T (REF)	Tube O.D.	Pipe Thread End	Q +.047 -.000	S +.047 -.000	V +.016 -.000
			THD P ANPT			
2	5/16-24	1/8	1/8	.734	.688	.312
3	3/8-24	3/16		.797		.375
4	7/16-20	1/4		.859		.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	1.781	1.688	1.312
16			1	1.781	1.938	1.312

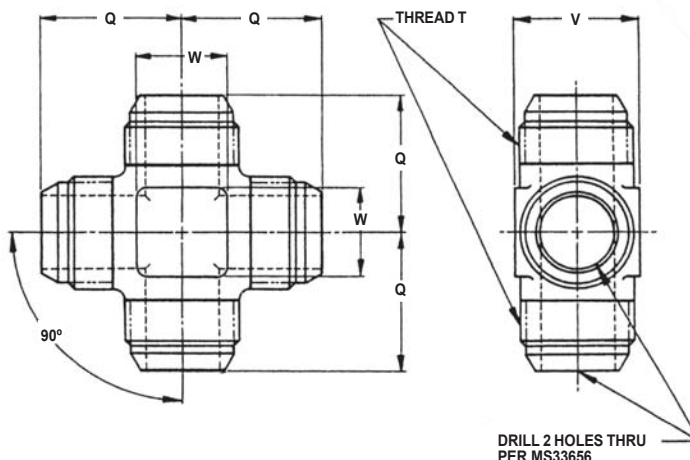
AN827-CROSS

Flared Tube

AN827-#D (Aluminum)

AN827-# (Steel)

AN827-#J (Corrosion Resistant)



Dash No. AN827	Tube O.D.	Thread T (REF)	Q +3/64 -0	V	W
4	1/4	7/16-20	55/64	7/16	3/8
5	5/16	1/2-20	59/64	1/2	15/32
6	3/8	9/16-18	1-1/32	9/16	1/2
8	1/2	3/4-16	1-7/32	3/4	11/16

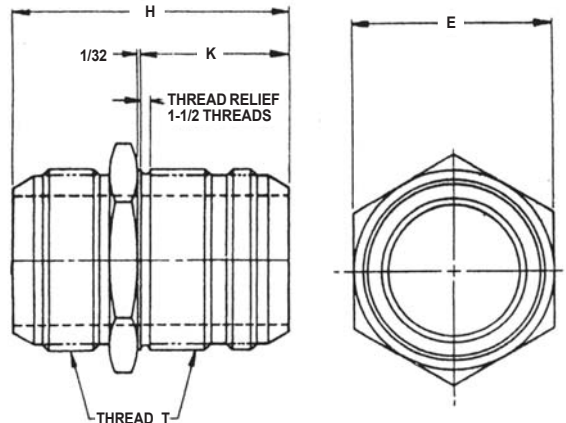
AN832-UNION

Flared Tube - 3/8 Bulkhead
& Universal

AN832-#D (Aluminum)

AN832-# (Steel)

AN832-#J (Corrosion Resistant)



Dash No. AN832	Tube O.D.	Thread T (REF)	E (REF)	H	K
2	1/8	5/16-24	.563	1-53/64	1-7/64
3	3/16	3/8-24	.625	1-55/64	
4	1/4	7/16-20	.688	2-3/64	1-13/64
5	5/16	1/2-20	.750	2-7/32	1-9/32
6	3/8	9/16-18	.813	2-29/64	1-7/16
8	1/2	3/4-16	1.000	2-23/32	1-37/64
10	5/8	7/8-14	1.125	3-1/32	1-3/4
12	3/4	1-1/16-12	1.375	3-5/64	
16	1	1-5/16-12	1.625		

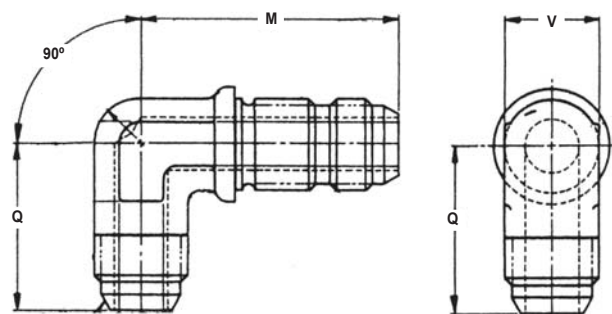
AN833-ELBOW

Flared Tube and
Bulkhead Universal, 90°

AN833-#D (Aluminum)

AN833-# (Steel)

AN833-#J (Corrosion Resistant)



Dash No. AN833	Tube O.D.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16-24	1-13/32	53/64	5/16
3	3/16	3/8-24	1-7/16	57/64	3/8
4	1/4	7/16-20	1-37/64	61/64	7/16
5	5/16	1/2-20	1-39/64	1-1/64	1/2
6	3/8	9/16-18	1-51/64	1-5/64	9/16
8	1/2	3/4-16	2-3/32	1-11/32	3/4
10	5/8	7/8-14	2-3/8	1-35/64	7/8
12	3/4	1-1/16-12	2-21/32	1-49/64	1-1/16

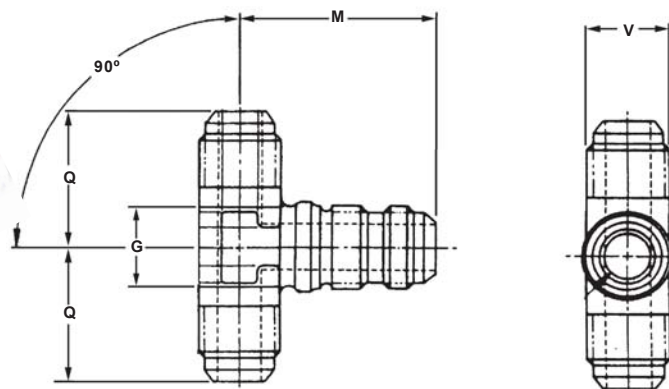
AN834-TEE

Bulkhead and
Universal Flared Tube

AN834-#D (Aluminum)

AN834-# (Steel)

AN834-#J (Corrosion Resistant)



Dash No. AN834	Tube O.D.	G Dia.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16	5/16-24	1-13/32	53/64	5/16
3	3/16	3/8	3/8-24	1-7/16	57/64	3/8
4	1/4	7/16	7/16-20	1-37/64	61/64	7/16
5	5/16	1/2	1/2-20	1-39/64	1-1/64	1/2
6	3/8	9/16	9/16-18	1-51/64	1-5/64	9/16
8	1/2	3/4	3/4-16	2-3/32	1-11/32	3/4
10	5/8	7/8	7/8-14	2-3/8	1-35/64	7/8
12	3/4	1-1/16	1-1/16-12	2-21/32	1-49/64	1-1/16

AN837-ELBOW

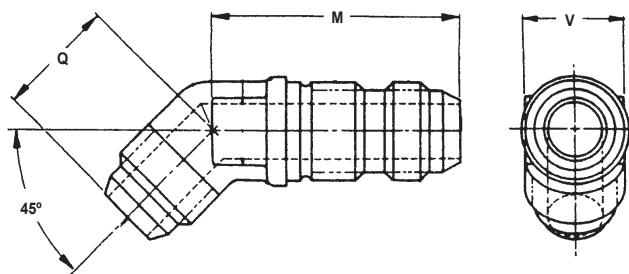
Flared Tube

Universal, 45°

AN837-#D (Aluminum)

AN837-# (Steel)

AN837-#J (Corrosion Resistant)



Dash No. AN837	Tube O.D.	Thread T (REF)	M +3/64 -0	Q +3/64 -0	V
2	1/8	5/16 - 24	1 - 3/8	41/64	5/16
3	3/16	3/8 - 24			3/8
4	1/4	7/16 - 20			7/16
5	5/16	1/2 - 20	1 - 17/32	3/4	1/2
6	3/8	9/16 - 18	1 - 43/64	13/16	9/16
8	1/2	3/4 - 16	1 - 15/16	31/32	3/4
10	5/8	7/8 - 14	2 - 11/64	1-3/32	7/8

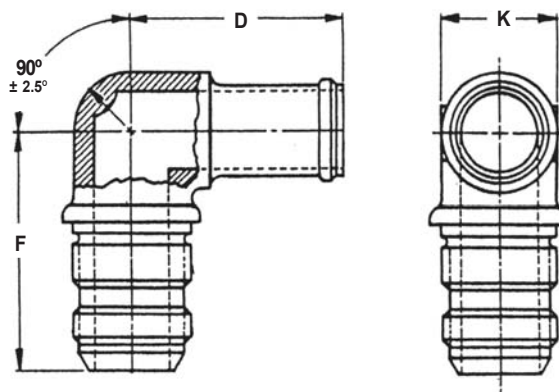
AN838-ELBOW

Flared Tube to Hose, 90°

AN838-#D (Aluminum)

AN838-# (Copper Alloy)

AN838-#J (Corrosion Resistant)

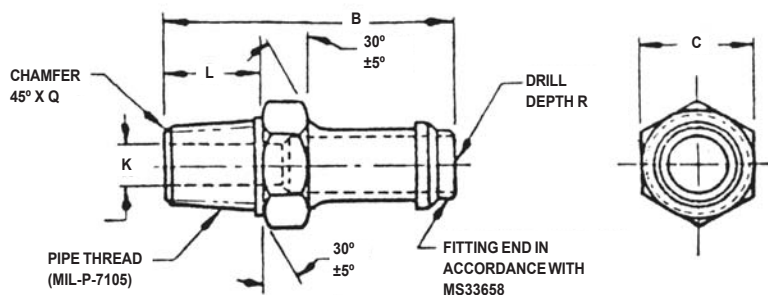


Dash No. AN838	Hose I.D.	Tube O.D.	Thread T (REF)	D +3/64 -0	F +3/64 -0	K
4	1/4	1/4	7/16-20	1-27/32	1-9/16	7/16
6	3/8	3/8	9/16-18	1-15/16	1-47/64	9/16
8	1/2	1/2	3/4-16	2-1/32	2-1/32	3/4
10	5/8	5/8	7/8-14	2-3/32	2-9/32	7/8
12	3/4	3/4	1-1/16-12	2-1/4	2-9/16	1-1/16

AN840-ADAPTER

Straight,
Pipe to Hose

AN840-#D (Aluminum)
AN840-# (Copper Alloy)
AN840-#S (Steel)

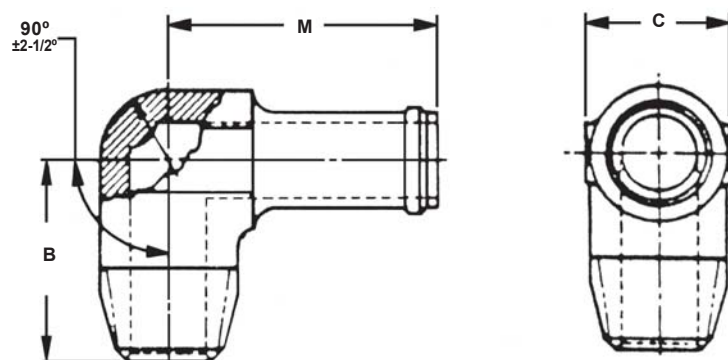


Dash No. AN840	Hose I.D.	Pipe THD ANPT	B +1/32 -0	C	L
4	1/4	1/8	2-5/64	.437	25/64
6	3/8	1/4	2-11/32	.625	19/32
8	1/2	3/8	2-3/8	.750	19/32
10	5/8	1/2	2-37/64	.937	49/64
11	3/4	3/8	2-13/32	1.000	19/32
12	3/4	3/4	2-5/8	1.125	25/32
16	1	3/4	2-5/8	1.250	25/32

AN842-ELBOW

Pipe to Hose, 90°

AN842-#D (Aluminum)
AN842-# (Copper Alloy)
AN842-#S (Steel)



Dash No. AN842	Hose I.D.	Pipe THD ANPT	B +1/32 -0	C	M +3/64 -0
4	1/4	1/8	25/32	7/16	1-25/32
6	3/8	1/4	1-3/32	5/8	1-29/32
8	1/2	3/8	1-3/16	3/4	1-63/64
10	5/8	1/2	1-13/64	15/16	2-11/64
12	3/4	3/4	1-19/32	1-1/8	2-13/64
16	1				

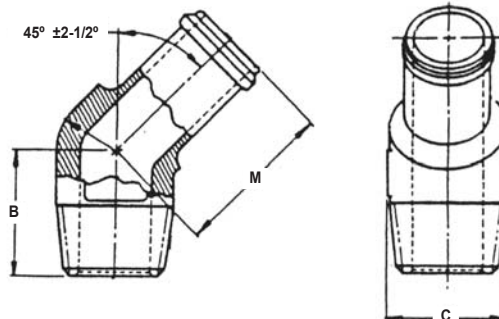
AN844-ELBOW

Pipe to Hose, 45°

AN844-#D (Aluminum)

AN844-# (Copper Alloy)

AN844-#S (Steel)



Dash No. AN844	Hose I.D.	Pipe THD NPT	B +3/64 -0	C	M +3/64 -0
4	1/4	1/8	5/8	7/16	1-5/8
6	3/8	1/4	7/8	5/8	1-11/16
8	1/2	3/8	59/64	3/4	1-23/32
10	5/8	1/2	1-5/32	15/16	1-25/32
12	3/4	3/4	1-13/64	1-1/8	1-13/16
16	1				

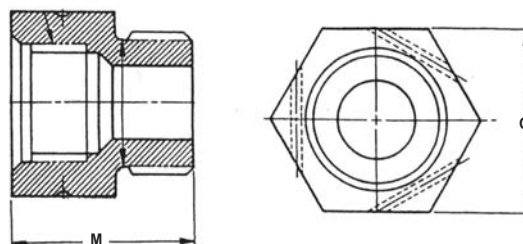
AN893-BUSHING

Female Straight to Male Straight
Screw Thread Reducer

AN893-#D (Aluminum)

AN893-# (Steel)

AN893-#J (Corrosion Resistant)



Dash No. AN893	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread S (REF)	Tube O.D.	Thread T (REF)	G	M
1	1/4	.4375-20	5/16	1/2-20	.750	1-7/64
2			3/8	9/16-18	.813	
3			1/2	3/4-16	1.000	
4			3/4	1-1/16-12	1.375	31/32
5			1	1-5/16-12	1.625	
6			1-1/4	1-5/8-12	1.875	
7	5/16	.5000-20	3/8	9/16-18	.813	1-7/64
8			1/2	3/4-16	1.000	
9			3/4	1-1/16-12	1.375	
10			1	1-5/16-12	1.625	31/32
11			1-1/4	1-5/8-12	1.875	
12			1/2	3/4-16	1.000	
121	3/8	.5625-18	5/8	7/8-14	1.125	1-7/32
13			3/4	1-1/16-12	1.375	
14			1	1-5/16-12	1.625	
15			1-1/4	1-5/8-12	1.875	31/32
151			5/8	7/8-14	1.125	
16			3/4	1-1/16-12	1.375	

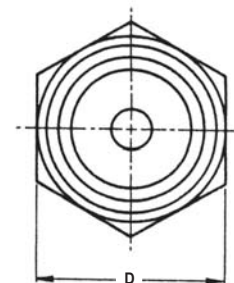
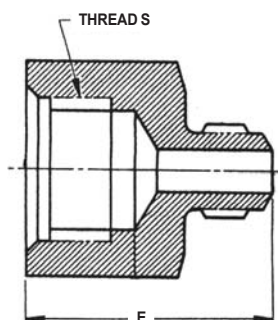
AN894-BUSHING

Female Straight to Male 37°
Screw Thread Expander

AN894D-# (Aluminum)

AN894-# (Steel)

AN894J-# (Corrosion Resistant)



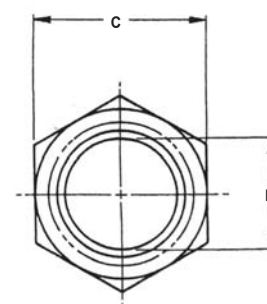
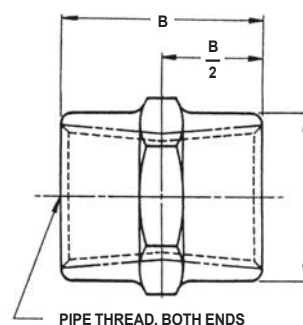
Dash No. AN894	Internally Threaded End		Externally Threaded End		Overall	
	Tube O.D.	Thread S (REF)	Tube O.D.	Thread T (REF)	D	E
3-2	3/16	.3750-24	1/8	.3125-24	.625	1-3/16
4-2	1/4	.4375-20		3/16	.375-24	.688
4-3						
5-4	5/16	.5000-20	1/4	.4375-20	.750	1-1/2
6-4	3/8	.5625-18		5/16	.500-20	.813
6-5						
8-4	1/2	.7500-16	1/4	.4375-20	1.000	1-37/64
8-5			5/16	.500-20		1-35/64
8-6			3/8	.5625-18		
10-4	5/8	.8750-14	1/4	.4375-20	1.125	1-43/64
10-5			5/16	.500-20		1-21/32
10-6			3/8	.5625-18		1-41/64
10-8			1/2	.750-16		1-3/4

AN910-COUPLING

Female to Female Pipe Thread

AN910-#D (Aluminum)

AN910-# (Copper Alloy)



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

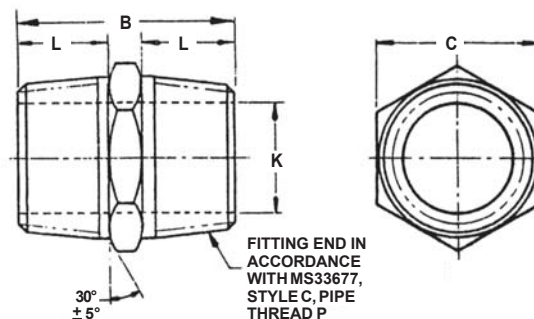
AN911-NIPPLE

Pipe

AN911-#D (Aluminum)

AN911-# (Copper Alloy)

AN911-#J (Corrosion Resistant)



Dash No. AN911	Thread P ANPT	B ±1/32	C		K Dia.		L
1	1/8	31/32	.438	+0.003 -.004	.203	+0.003 -.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 -.004	
4	1/2	1-27/32	.938		.508	+0.004	
6	3/4	1-29/32	1.125	+0.005	.727	+0.003 -.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

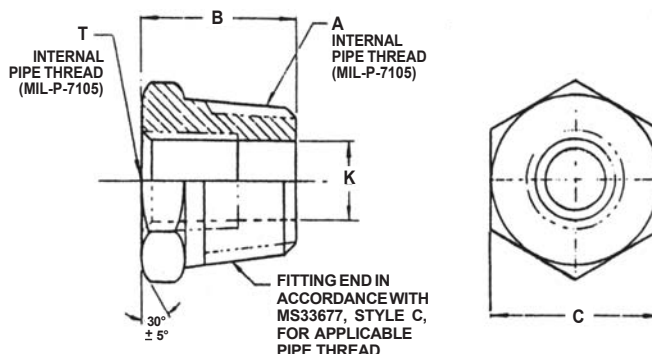
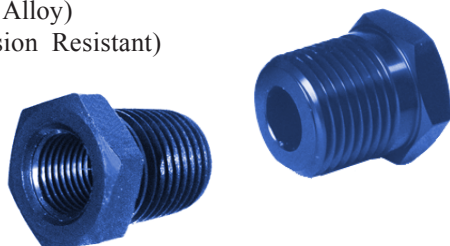
AN912-BUSHING

Pipe

AN912-#D (Aluminum)

AN912-# (Copper Alloy)

AN912-#J (Corrosion Resistant)



Dash No. AN912	A	T	B ±1/32	C		K Dia.	
1	1/4	1/8	25/32	.625	+0.004	.327	+0.000 -.016
2	3/8	1/4		.750		.423	+0.000 -.019
3		1/8				.327	+0.000 -.016
4	1/2	3/8	1-1/64	.937	+0.004	.557	+0.000 -.028
5		1/4				.423	+0.000 -.019
6		1/8				.327	+0.000 -.016
7	3/4	1/2	1-1/16	1.125	+0.005	.688	+0.000 -.034
8		3/8				.557	+0.000 -.028
9		1/4				.423	+0.000 -.019
10	1	3/4	1-1/4	1.375	+0.005	.897	+0.000 -.049
11		1/2				.688	+0.000 -.034
12		3/8				.557	+0.000 -.028

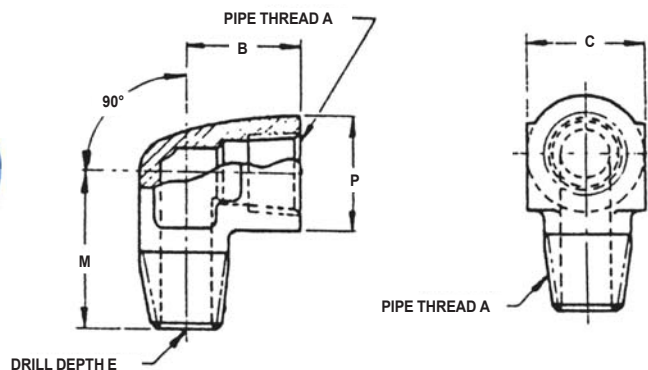
AN914-ELBOW

Pipe Internal and
External Thread, 90°

AN914-#D (Aluminum)

AN914-# (Copper Alloy)

AN914-#J (Corrosion Resistant)



Dash No. AN914	THD A ANPT	B +3/64 -0	C	M +3/64 -0	P Dia.
1	1/8	39/64	5/8	55/64	37/64
2	1/4	57/64	13/16	1-7/32	25/32
3	3/8	15/16	15/16	1-19/64	59/64
4	1/2	1-11/64	1-3/16	1-39/64	1-5/32
6	3/4	1-11/32	1-3/8	1-47/64	1-23/64

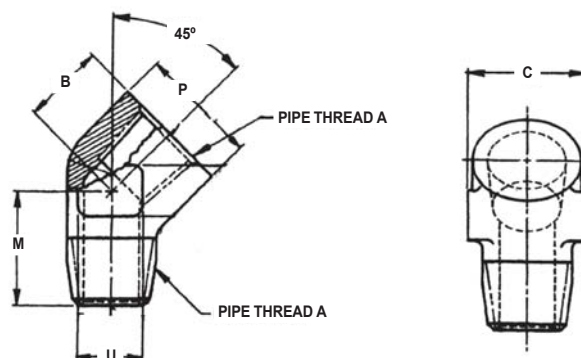
AN915-ELBOW

Pipe 45°

AN915-#D (Aluminum)

AN915-# (Copper Alloy)

AN915-#J (Corrosion Resistant)



Dash No. AN915	THD A ANPT	B +3/64 -0	C	M +3/64 -0	P Dia.	U Approximate
1	1/8	15/32	5/8	23/32	37/64	5/16
2	1/4	5/8	13/16	1-3/64	25/32	7/16
3	3/8	23/32	15/16	1-1/16	59/64	1/2
4	1/2	29/32	1-3/16	1-11/32	1-5/32	5/8
6	3/4	31/32	1-3/8	1-3/8	1-23/64	3/4
8	1	1-1/8	1-3/4	1-23/32	1-11/16	7/8

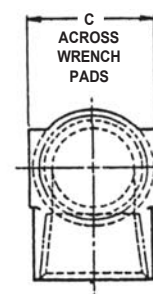
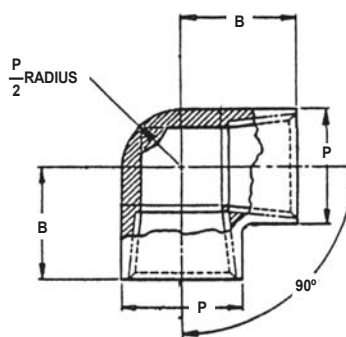
AN916-ELBOW

Pipe Internal Thread, 90°

AN916-#D (Aluminum)

AN916-# (Copper Alloy)

AN916-#J (Corrosion Resistant)



Dash No. AN916	Pipe THD ANPT	B $+3/64$ -0	C	P Dia.
1	.125	.641	.625	.578
2	.250	.891	.813	.781
3	.375	.969	.936	.922
4	.500	1.234	1.188	1.156
6	.750	1.344	1.375	1.359

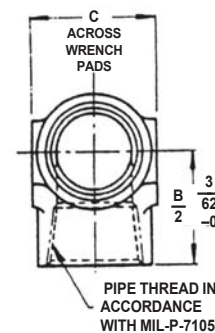
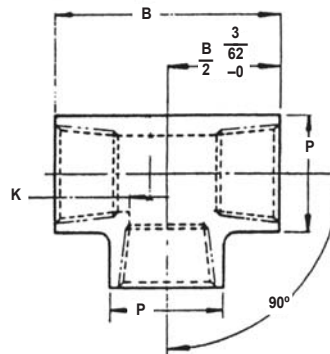
AN917-TEE

Pipe Internal Thread

AN917-#D (Aluminum)

AN917-# (Copper Alloy)

AN917-#J (Corrosion Resistant)



Dash No. AN917	Pipe THD ANPT	B $+3/64$ -0	C	P Dia.
1	1/8	1-9/32	5/8	37/64
2	1/4	1-25/32	13/16	25/32
3	3/8	1-15/16	15/16	59/64
4	1/2	2-15/32	1-3/16	1-5/32
6	3/4	2-11/16	1-3/8	1-23/64
8	1	3-1/4	1-3/4	1-11/16

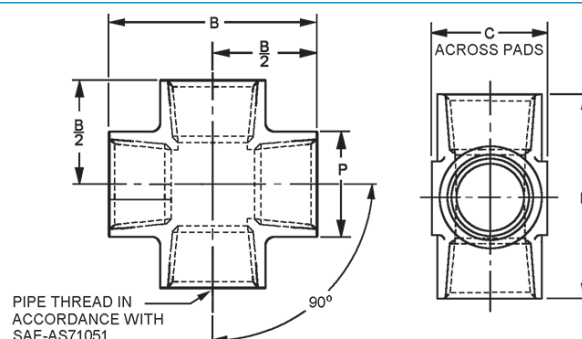
AN918-FEMALE CROSS

Pipe Internal Thread

AN918-#D (Aluminum)

AN918-# (Steel)

AN918-#J (Corrosion Resistant)



Dash No. AN918	Pipe THD ANPT	B +3/32 -0	C	P Dia.
1	1/8	1-9/32	5/8	37/64
2	1/4	1-25/32	13/16	25/32
3	3/8	1-15/16	15/16	59/64
4	1/2	2-15/32	1-3/16	1-5/32
6	3/4	2-11/16	1-3/8	1-23/64
8	1	3-1/4	1-3/4	1-11/16

AN919-REDUCER - MALE TO MALE

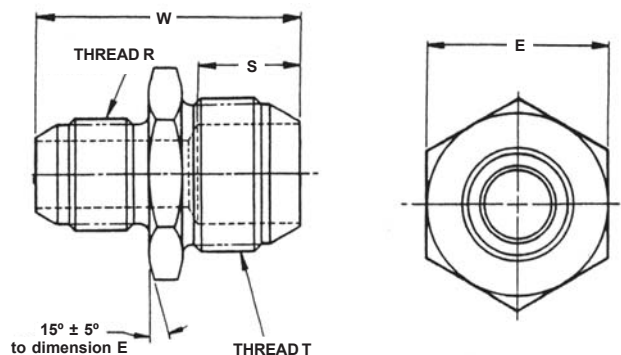
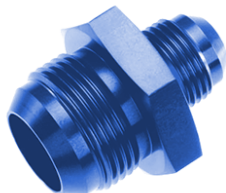
External Thread

Flared Tube, 37° Flare

AN919-#D (Aluminum)

AN919-# (Steel)

AN919-#J (Corrosion Resistant)



Dash No. AN919	Large End		Small End		E	W	S		
	Tube O.D.	Thread T (REF)	Tube O.D.	Thread R (REF)					
0	3/16	3/8-24	1/8	5/16-24	.625	1-11/64	5/8		
1	1/4	7/16-20			.688	1-1/4	11/16		
2			3/16	3/8-24				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	1/2	3/4-16	1/8	5/16-24	1.000	1-29/64	23/32		
9			3/16	3/8-24		1-17/32			
10			1/4	7/16-20		1.125		1-21/32	51/64
11			5/16	1/2-20					
12	5/8	7/8-14	3/8	9/16-18	1.375	1-51/64	57/64		
13			1/4	7/16-20		1-57/64			
14			3/8	9/16-18		2			
15			1/2	3/4-16		1-27/32			
16	3/4	1-1/16-12	1/4	7/16-20	1.625	2-3/64			
17			5/16	1/2-20		2-5/32			
18			3/8	9/16-18					
19			1/2	3/4-16					
20	1	1-5/16-12	5/8	7/8-14					
21			1/4	7/16-20					
22			5/8	7/8-14					
23			3/4	1-1/16-12					

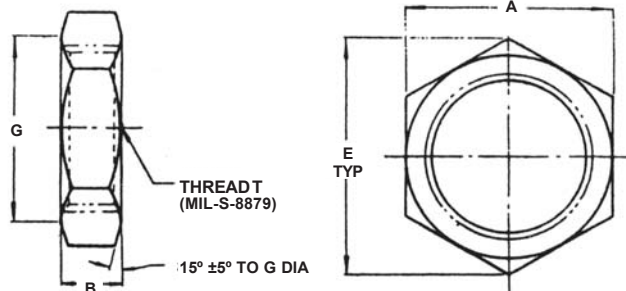
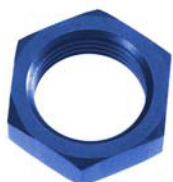
AN924-NUT

Tube, Bulkhead and
Universal Fitting

AN924- #D (Aluminum)

AN924- # (Steel)

AN924-#J (Corrosion Resistant)



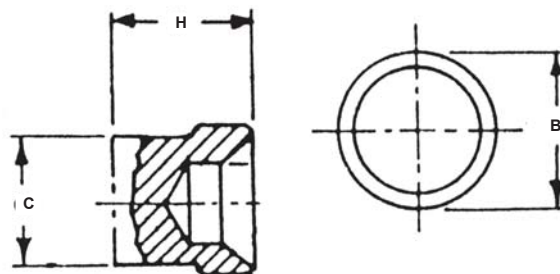
Dash No. AN924	Tube O.D.	Thread T (REF)	G Dia.	A		B	E
2	1/8	5/16-24	.500	.563	+ .003 - .004	7/32	.629
3	3/16	3/8-24	.562	.625			.699
4	1/4	7/16-20	.625	.688		1/4	.771
5	5/16	1/2-20	.687	.750			.842
6	3/8	9/16-18	.750	.813		17/64	.914
8	1/2	3/4-16	.937	1.000		5/16	1.127
10	5/8	7/8-14	1.062	1.125		23/64	1.270
12	3/4	1-1/16-12	1.274	1.375	± .016	13/32	1.555
16	1	1-5/16-12	1.524	1.625			1.827
20	1-1/4	1-5/8-12	1.838	1.938			2.184
24	1-1/2	1-7/8-12	2.093	2.188	± .020		2.465

AN929-CAP ASSEMBLY

Pressure Seal
Flared Tube Fitting

AN929- # (Aluminum)

AN929-#J (Corrosion Resistant)



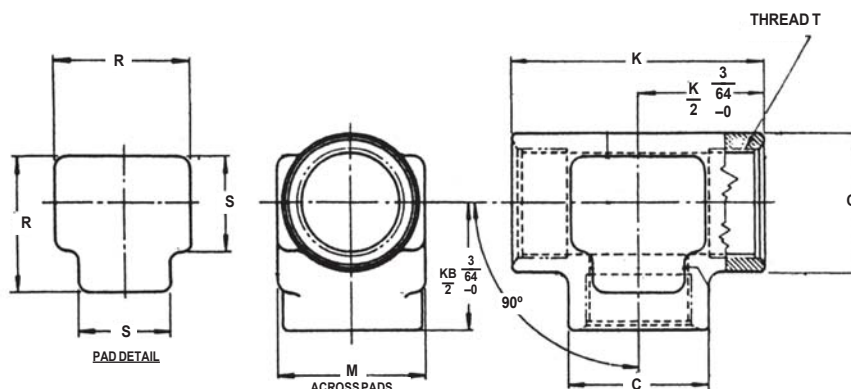
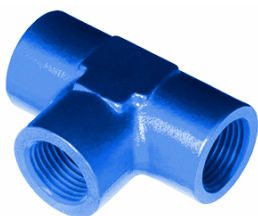
Dash No. AN929	Tube O.D.	B Dia. + .000 - .003	C Dia.	H
2	1/8	.263	5/32	17/32
3	3/16	.325	7/32	
4	1/4	.378	9/32	
5	5/16	.441	11/32	9/16
6	3/8	.503	27/64	5/8
8	1/2	.683	35/64	3/4
10	5/8	.799	43/64	
12	3/4	.974	13/16	7/8
16	1	1.224	1-1/16	

AN938-TEE

Tube, Internal Thread

AN938D# (Aluminum)

AN938-# (Steel)



Dash No. AN938	Tube O.D.	Thread T (REF)	C Dia.	H Approx.	K +3/32 -0	R Approx.	S Approx.
4	1/4	7/16-20	11/16	3/4	1-1/2	3/4	1/2
5	5/16	1/2-20	3/4			7/8	9/16
6	3/8	9/16-18	13/16	13/16	1-5/8		
8	1/2	3/4-16	1-1/16	1-1/16	2	1-1/16	11/16
10	5/8	7/8-14	1-3/16	1-3/16	2-5/16	1-3/16	3/4

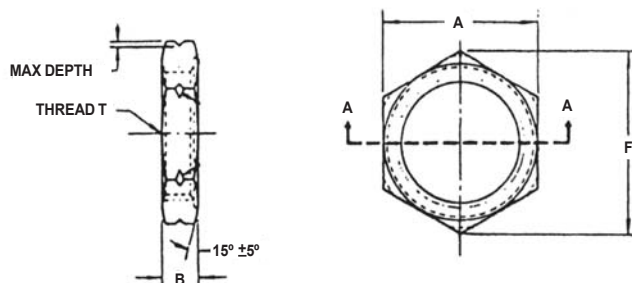
AN6289-NUT

Tube with Groove
for O-Ring

AN6289D# (Aluminum)

AN6289-# (Steel)

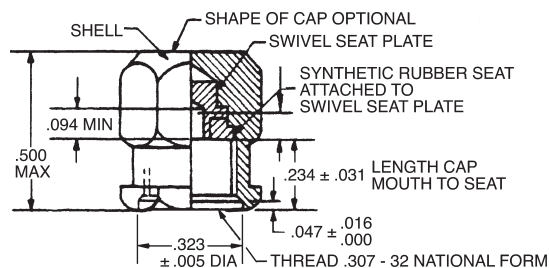
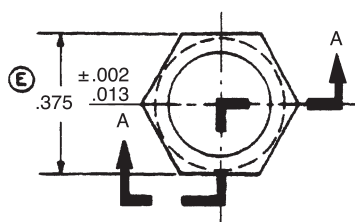
AN6289J# (Corrosion Resistant)



Dash No. AN6289	Tube O.D.	Thread T (REF)	A	B	F
2	1/8	5/16-24	.563	1/4	.65
3	3/16	3/8-24	.625		.72
4	1/4	7/16-20	.688	9/32	.79
5	5/16	1/2-20	.750		.87
6	3/8	9/16-18	.813	19/64	.94
8	1/2	3/4-16	1.000	11/32	1.15
10	5/8	7/8-14	1.125	25/64	1.30
12	3/4	1-1/16-12	1.375	7/16	1.59
16	1	1-5/16-12	1.625		1.88

MS20813-1 CAP

Pneumatic Valve Cap, High Pressure



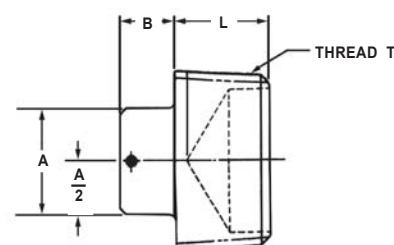
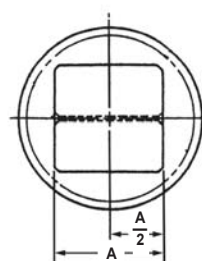
MS20913-PLUG

Square Head
Safety Wire Hole

MS20913-#D (Aluminum)

MS20913-# (Copper)

MS20913-#S (Steel)



Dash No. MS20913	Thread T NPT	A +.002 / -.010	B	L
0	1/16-27	.188	.188	.312
1	1/8-27	.281	.250	.328
2	1/4-18	.375	.281	.484
3	3/8-18	.438	.312	
4	1/2-14	.563	.375	.625
6	3/4-14	.625	.438	.641
8	1-11-1/2	.813	.500	.797

MS21900 ADAPTER

Adapter, Flareless
Tube to a Flared Tube

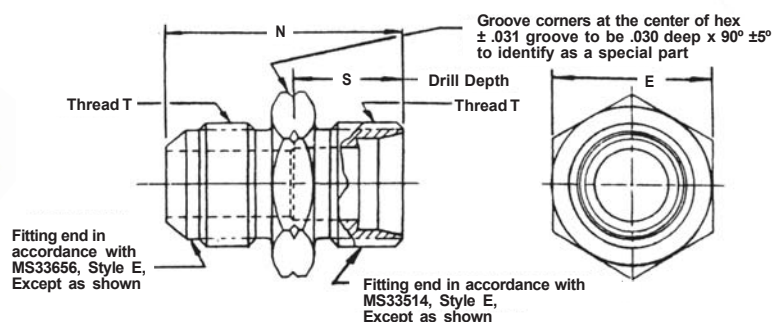
MS21900D# (Aluminum 2024)

MS21900-# (Steel)

MS21900J# (Corrosion Resistant)

MS21900W# (Aluminum 7075)

MS21900V#P (CRES Steel, Cad Plated)



Dash No. MS21900	Tube O.D.	Thread T (REF)	E	N	S
3	3/16	.3750-24	.625	1.156	THRU
4	1/4	.4375-20	.688	1.188	.563
5	5/16	.5000-20	.750	1.156	THRU
6	3/8	.5625-18	.813	1.281	
8	1/2	.7500-16	1.000	1.469	.688
10	5/8	.8750-14	1.125	1.688	.781
12	3/4	1.0625-12	1.375	1.938	.875

MS21902 UNION

Flareless Tube

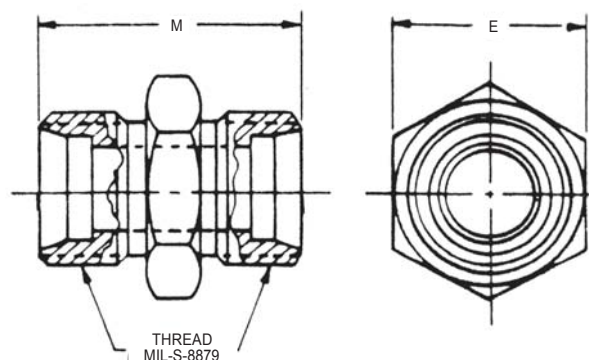
MS21902D# (Aluminum 2024)

MS21902-# (Steel)

MS21902J# (CRES Steel 304)

MS21902W# (Aluminum 7075)

MS21902V#P (CRES Steel, Cad Plated)



Dash No. MS21902	Tube O.D.	Thread T (REF) MIL-S-8879	E (REF)	M
2	1/8	.3125-24	.563	1.063
3	3/16	.3750-24	.625	1.094
4	1/4	.4375-20	.688	1.063
5	5/16	.5000-20	.750	1.063
6	3/8	.5625-18	.813	1.188
8	1/2	.7500-16	1.000	1.375
10	5/8	.8750-14	1.125	1.563
12	3/4	1.0625-12	1.375	1.750

MS21904 ELBOW

Flareless Tube, 90°

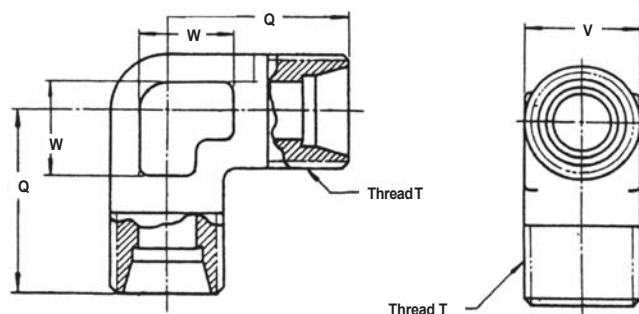
MS21904D# (Aluminum 2024)

MS21904-# (Steel)

MS21904J# (CRES Steel 304)

MS21904W# (Aluminum 7075)

MS21904V#P (CRES Steel, Cad Plated)



Dash No. MS21904	Tube O.D.	Thread T MIL-S-8879	Q +3/64 -0	V	W Approximate
2	1/8	.3125-24	3/4	5/16	5/16
3	3/16	.3750-24	13/16	3/8	3/8
4	1/4	.4375-20	7/8	7/16	1/2
5	5/16	.5000-20	15/16	1/2	5/8
6	3/8	.5625-18	1-1/32	9/16	3/4
8	1/2	.7500-16	1-1/4	3/4	7/8
10	5/8	.8750-14	1-13/32	7/8	7/8
12	3/4	1.0625-12	1-9/16	1-1/16	7/8

MS21907 ELBOW

Bulkhead Universal

45° Flareless Tube

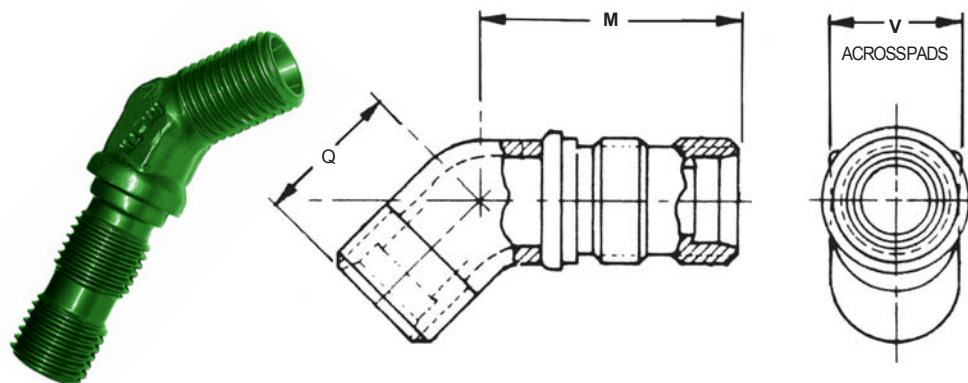
MS21907D# (Aluminum 2024)

MS21907-# (Steel)

MS21907J# (Corrosion Resistant)

MS21907W# (Aluminum 7075)

MS21907V#P (CRES Steel, Cad Plated)



Dash No. MS21907	Tube O.D.	Thread T MIL-S-8879	M +.047 -0	Q +.047 -0	V
2	1/8	.3125-24	1.281	.625	.312
3	3/16	.3750-24	1.328	.656	.375
4	1/4	.4375-20	1.453	.687	.437
5	5/16	.5000-20		.719	.500
6	3/8	.5625-18	1.562	.812	.562
8	1/2	.7500-16	1.812	.969	.750
10	5/8	.8750-14	2.047	1.062	.875
12	3/4	1.0625-12	2.250	1.250	1.062

MS21908 ELBOW

Bulkhead Universal

90° Flareless Tube

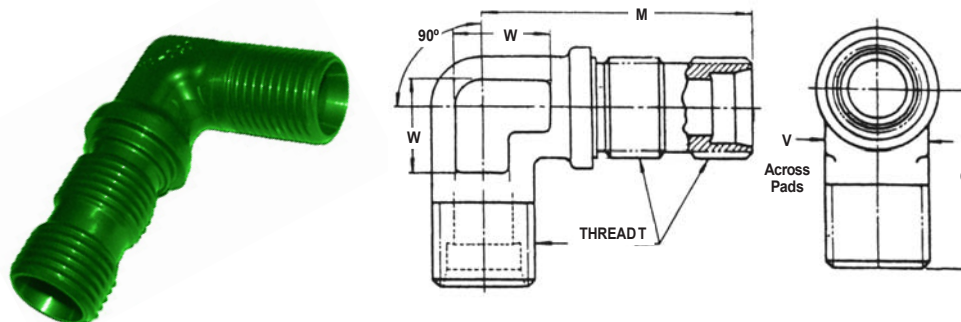
MS21908D# (Aluminum 2024)

MS21908-# (Steel)

MS21908J# (CRES Steel 304)

MS21908W# (Aluminum 7075)

MS21908V#P (CRES Steel, Cad Plated)



Dash No. MS21908	Tube O.D.	Thread T MIL-S-8879	M +3/64 -0	Q +3/64 -0	V	W Approximate
2	1/8	.3125-24	1-5/16	25/32	5/16	5/16
3	3/16	.3750-24	1-25/64	29/32	3/8	5/16
4	1/4	.4375-20	1-1/2	15/16	7/16	3/8
5	5/16	.5000-20	1-17/32	1-1/32	1/2	1/2
6	3/8	.5625-18	1-11/16	1-1/16	9/16	1/2
8	1/2	.7500-16	1-31/32	1-5/16	3/4	5/8
10	5/8	.8750-14	2-1/4	1-1/2	7/8	3/4
12	3/4	1.0625-12	2-15/32	1-5/8	1-1/16	7/8

MS21913 PLUG

Hex Head, Flareless Tube

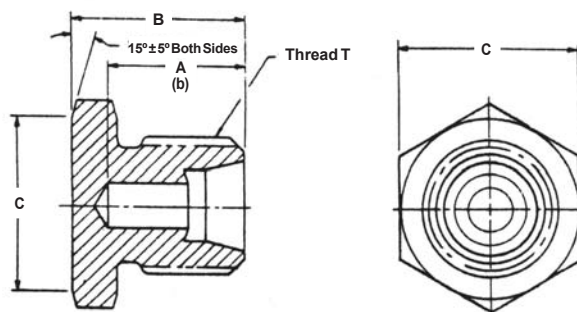
MS21913D# (Aluminum 2024)

MS21913-# (Steel)

MS21913J# (CRES Steel 304)

MS21913W# (Aluminum 7075)

MS21913V#P (CRES Steel, Cad Plated)



Dash No. MS21913	Tube O.D.	Thread T MIL-S-8879	A +3/64 -0	B	C
2	1/8	.3125-24	3/8	9/16	.438
3	3/16	.3750-24	7/16	39/64	
4	1/4	.4375-20		41/64	.500
5	5/16	.5000-20	1/2	43/64	.563
6	3/8	.5625-18		23/32	.625
8	1/2	.7500-16	9/16	27/32	.812
10	5/8	.8750-14	5/8	63/64	.968
12	3/4	1.0625-12	11/16	1-1/32	1.125
16	1	1.3125-12		1-1/16	1.375

MS21914 CAP

Pressure Seal,
Flareless Tube Fitting

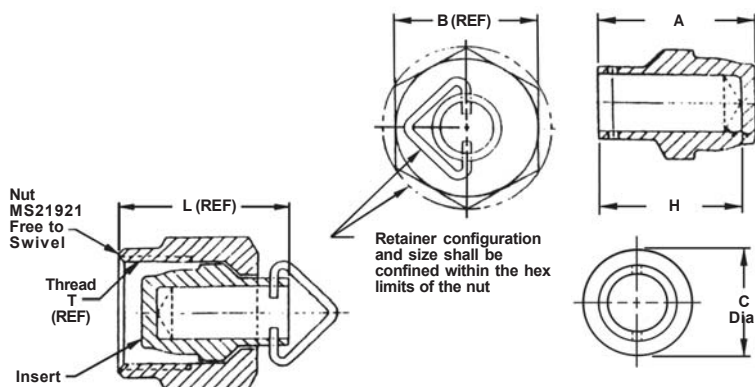
MS21914-D (Aluminum 2024)

MS21914-# (Steel)

MS21914-J (CRES Steel 304)

MS21914-W (Aluminum 7075)

MS21914V#P (CRES Steel, Cad Plated)



Dash No. MS21914	Tube O.D.	Thread T MIL-S-8879	A +.010	B (REF)	C Dia. +.005	H +.010	L (REF)
2	1/8	.3125-24	.600	.375	.256	-	.720
3	3/16	.3750-24	.672	.438	.318	-	.767
4	1/4	.4375-20	.745	.562	.371	.600	.893
5	5/16	.5000-20	.845	.625	.434	.700	.977
6	3/8	.5625-18	.885	.688	.490	.740	.965
8	1/2	.7500-16	.935	.875	.670	.790	1.077
10	5/8	.8750-14	1.062	1.000	.786	.917	1.210
12	3/4	1.0625-12	1.082	1.250	.960	.937	1.208
16	1	1.3125-12	1.218	1.500	1.210	1.073	1.189

MS21921 NUT

Sleeve Coupling, Flareless

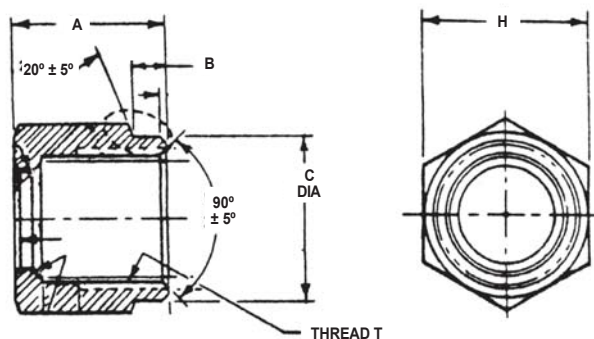
MS21921-#D (Aluminum 2024)

MS21921-# (Steel)

MS21921-#J (CRES Steel 304)

MS21921-#W (Aluminum 7075)

MS21921V#P (CRES Steel, Cad Plated)



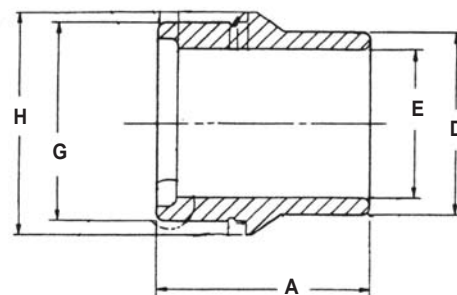
Dash No. MS21921	Tube O.D.	Thread T MIL-S-8879	A +.010	B +.010	C +.005 -.000	H
2	1/8	.3125-24	.53	.14	.365	.375
3	3/16	.3750-24	.58	.10	.427	.438
4	1/4	.4375-20	.72	.18	.552	.562
5	5/16	.5000-20	.76		.615	.625
6	3/8	.5625-18	.80		.677	.688
8	1/2	.7500-16	.86		.865	.875
10	5/8	.8750-14	.98	.22	.990	1.000
12	3/4	1.0625-12	1.00	.24	1.240	1.250
16	1	1.3125-12	1.05	.26	1.490	1.500

MS21922 SLEEVE

Coupling, Flareless

MS21922-# (Steel)

MS21922#C (CRES Steel)



Dash No. MS21922		Tube O.D.	A +.01	D	E +.003 -.000	G +.004 -.000	H
Steel	Corrosion Res.						
2	2C	1/8	.41	.164	.129	.175	.256
3	3C	3/16	.45	.226	.193	.252	.299
4	4C	1/4	.52	.294	.255	.309	.359
5	5C	5/16	.59	.360	.318	.373	.422
6	6C	3/8	.66	.419	.380	.435	.484
8	8C	1/2	.75	.546	.506	.585	.619
10	10C	5/8	.80	.682	.633	.707	.750
12	12C	3/4	.75	.817	.758	.836	.938
16	16C	1	.80	1.065	1.008	1.086	1.156

CAPPLUGS

CD SERIES

Threaded Plastic Caps
for Flared Fittings



PD SERIES

Threaded Plastic Plugs
for Flared Fittings



CD Series	Tube Size	To Fit Thread	PD Series	Tube Size	To Fit Thread
CD-3	3/16	3/8-24	PD-20	1/8	5/16-24
CD-4	1/4	7/16-20	PD-30	3/16	3/8-24
CD-5	5/16	1/2-20	PD-40	1/4	7/16-20
CD-6	3/8	9/16-18	PD-50	5/16	1/2-20
CD-8	1/2	3/4-16	PD-60	3/8	9/16-18
CD-10	5/8	7/8-14	PD-80	1/2	3/4-16
CD-12	3/4	1-1/16 -12	PD-100	5/8	7/8-14
CD-16	1	1-5/16 -12	PD-120	3/4	1-1/16 -12

ASC SERIES

Aluminum Caps for
Threaded Flared Fittings



ASP SERIES

Threaded Aluminum Plugs
for 37° Flared Fittings



ASC Series	Tube Size	To Fit Thread	ASP Series	Tube Size	To Fit Thread
ASC-4	1/4	7/16-20	ASP-4	1/4	7/16-20
ASC-5	5/16	1/2-20	ASP-5	5/16	1/2-20
ASC-6	3/8	9/16-18	ASP-6	3/8	9/16-18
ASC-8	1/2	3/4-16	ASP-8	1/2	3/4-16
ASC-10	5/8	7/8-14	ASP-10	5/8	7/8-14
ASC-12	3/4	1-1/16 -12	ASP-12	3/4	1-1/16 -12
ASC-16	1	1-5/16 -12	ASP-16	1	1-5/16 -12

EC SERIES

Electric-Static-Free Caps
for Threaded Connector



EP SERIES

Electro-Static-Free Plugs
for Threaded Connector



EC Series	Will Cap Thread Size	EP Series	Will Plug Nominal Thread Size
EC-6	3/8	EP-8	1/4-28
EC-8	1/2	EP-10	5/8-24
EC-10	5/8	EP-12	3/4-20
EC-12	3/4	EP-14	7/8-20
EC-14	7/8	EP-16	1-20
EC-16	1	EP-20	1-1/4-18

PDE SERIES

Threaded Plastic Plugs
For Flareless Tubes and
Nut Assemblies



ADP SERIES

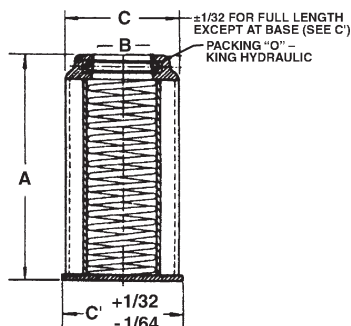
Threaded Aluminum Plugs
for Flareless Tube and
Hose Assemblies



PDE Series	Tube Size	To Fit Thread	ADP Series	Tube Size	To Fit Thread
PDE-4	1/4	7/16-20	ADP-4	1/4	7/16-20
PDE-5	5/16	1/2-20	ADP-5	5/16	1/2-20
PDE-6	3/8	9/16-18	ADP-6	3/8	9/16-18
PDE-8	1/2	3/4-16	ADP-7	7/16	5/8-18
PDE-10	5/8	7/8-14	ADP-8	1/2	3/4-16
PDE-12	3/4	1-1/16 -12	ADP-10	5/8	7/8-14
PDE-16	1	1-5/16 -12	ADP-12	3/4	1-1/16 -12

AN6235

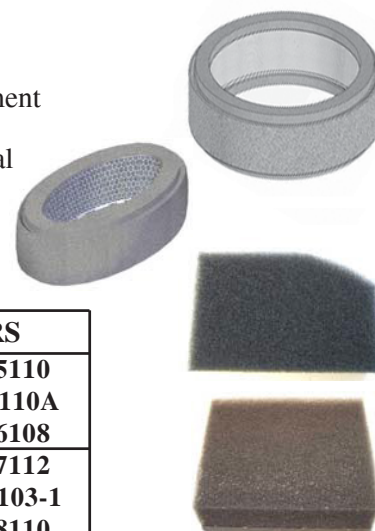
Filter
Element



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

BRACKETT AIR FILTERS

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



PART NUMBERS

BA-3	BA-5110
BA-16	BA-5110A
BA-104	BA-6108
BA-2205L	BA-7112
BA-4106	BA-8103-1
BA-4108	BA-8110

1J7-1

Airbourne Filter
For Vacuum Systems



Filter replacement element Part # D9-18-1

1J7-2

Airbourne Filter
For Vacuum Systems



Filter replacement element Part # D9-18-1

CONICAL SEALS AP50 & AS4824

Special Note: The AP50 & AS4824 Conical seals have the same fit, form and function. The AP50's are significantly more expensive (double to triple) for reasons only the Mfg is aware of. We do not stock the Copper. Please allow 1 week & 50 pc MIN



Fitting Size	AP50		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



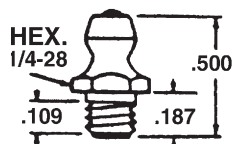
CCA-4850
Material - Brass
Cadmium-Plated
Length - 1.358"
Action - Spiral
Lock Open



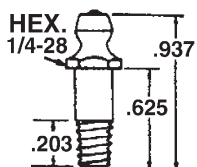
CCA-7450
Material - Brass
Cadmium-Plated
Length - 1.358"
Action - Spiral
Lock Open

GREASE FITTINGS

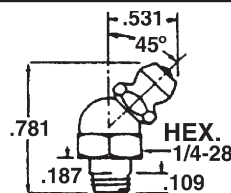
AS15001P, AS15002P
AS15003P, AS15006P



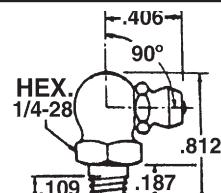
AS15001-1P



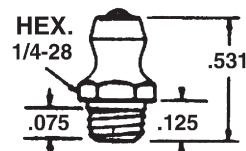
AS15001-2P



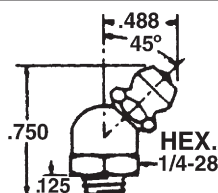
AS15001-3P



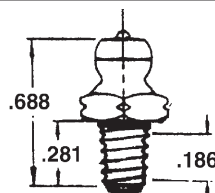
AS15001-4P



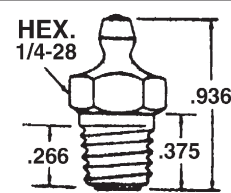
AS15002-1P



AS15002-3P



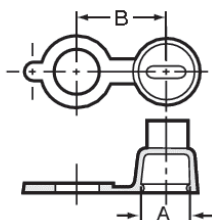
AS15003-1P



AS15006-1P

GC-5 CAPPLUG

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

AEROQUIP & STRATOFLEX FITTINGS

491 (300) - For Use On
Aeroquip 303 &
Stratoflex 111 Hose



Aeroquip 491	Stratoflex 300	Tube O.D.	Thread Size
3	3S	3/16	3/8-24
4	4S	1/4	7/16-20
5	5S	5/16	1/2-20
6	6S	3/8	9/16-18
8D	8D	1/2	3/4-16

AEROQUIP & STRATOFLEX FITTINGS

471 (311) - For Use On
Aeroquip 306 &
Stratoflex 193 Hose



Aeroquip 471	Stratoflex 311	Tube O.D.	Thread Size
2D	2D	1/8	5/16-24
3D	3D	3/16	3/8-24
4D	4D	1/4	7/16-20
6D	6D	3/8	9/16-18
8D	8D	1/2	3/4-16

AEROQUIP 303 MEDIUM PRESSURE HOSE & FITTINGS



303 HOSE {MIL-H-8794} CONSTRUCTION:

Inner tube is made of a seamless synthetic rubber compound reinforced by a synthetic-impregnated single wire braid over a single cotton braid. Outer cover is synthetic impregnated oil-resistant braid.

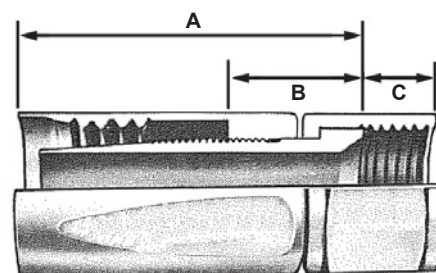
OPERATING TEMP: -65°F to +250°F

APPLICATION: Medium pressure hydraulic, pneumatic, fuel, oil and coolant systems {specified in MS33620}.

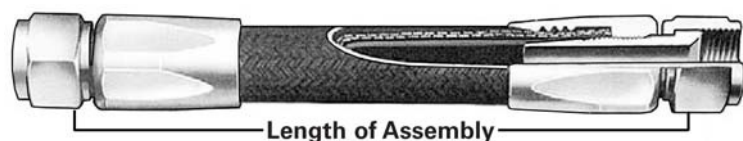
IDENTIFICATION: Grey-black braided cover, a yellow marking with symbol "MIL-H-8794", size, date of manufacture (quarter year/year) and hose manufacturer's code. 90° from this is a yellow indicator stripe with "Aeroquip 303". All markings are spaced 9 inches apart.

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

491 HOSE FITTING



350 COMPLETE HOSE ASSEMBLY



ASSEMBLY SAMPLE PART NUMBER

Base # **350** - **6** * **012** **3**
 Size _____
 Length in Eighths (3/8")
 Length in Inches (12")
 * use D instead of (-) after size for -8 & larger

Assembly Part Number	Tube Size O.D.	Fittings 2 Per Assy.	Hose Part Number	Hose Size I.D.	Hose Size O.D.	Max oper. P.S.I.	Max proof P.S.I.	Max burst P.S.I.	Max bend radii
350-3-L	3/16	491-3	303-3	.125	.453	3000	6000	12000	3.00
350-4-L	1/4	491-4	303-4	.188	.516	3000	6000	12000	3.00
350-5-L	5/16	491-5	303-5	.250	.578	3000	5000	10000	3.38
350-6-L	3/8	491-6	303-6	.313	.672	2000	4500	9000	4.00
350-8DL	1/2	471-8	303-8	.406	.766	2000	4000	8000	4.62
350-10DL	5/8	471-10	303-10	.500	.922	1750	3500	7000	5.50

AEROQUIP 306 LOW PRESSURE HOSE & FITTINGS



306 HOSE {MIL-H-5593} CONSTRUCTION:

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

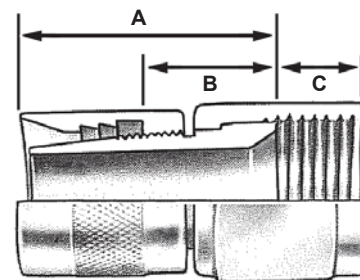
OPERATING TEMP: -65°F to +160°F

APPLICATION: Air or vacuum instrument systems, automatic pilots & lines to pressure gauges used with these systems {specified in MS33620}.

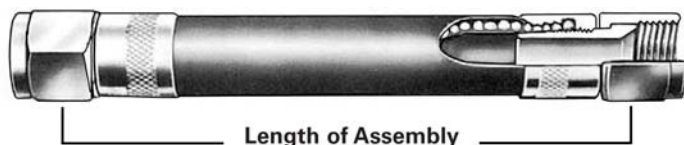
IDENTIFICATION: Black cover, a yellow indicator stripe with symbol "LP", manufacturer's code, size, and date of manufacture (quarter year/year). 180° from this is "Aeroquip 306" in a white stripe. All markings are spaced 6 inches apart.

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

471 HOSE FITTING



359 COMPLETE HOSE ASSEMBLY



ASSEMBLY SAMPLE PART NUMBER

359 - 4 D - 012 3
 Base # _____ Length in Eighths (3/8")
 Size _____ Length in Inches (12")
 _____ Material Code

Assembly Part Number	Tube Size O.D.	Fittings 2 Per Assy.	Hose Part Number	Hose Size I.D.	Hose Size O.D.	Max oper. P.S.I.	Max proof P.S.I.	Max burst P.S.I.	Max bend radii
359-2DL	1/8	471-2D	306-2	.125	.344	300	600	2000	2.00
359-3DL	3/16	471-3D	306-3	.188	.406	250	500	1700	2.00
359-4DL	1/4	471-4D	306-4	.250	.469	200	400	1250	4.00
359-6DL	3/8	471-6D	306-6	.375	.594	150	300	1000	4.00
359-8DL	1/2	471-8D	306-8	.500	.750	150	250	750	6.00

AEROQUIP FIRE SLEEVE

Construction: Specially developed to meet the fire resistance requirements of FAATSO-C53 or TSO-C75. Uniform layer of fiberglass tubing impregnated and overlaid with a flame resistant silicone rubber. Asbestos yarn used in the braid is closely spun to provide maximum protection. The silicone rubber will not soften, peel, blister or harden after contact with MIL-H-5606, distilled water, MIL-L-7808, MIL-L-6082, or Skydrol 500.

Operating Temperatures: -65°F to +500°F

Identification: Outer surface is orange in color, with a simple black layline consisting of "Aeroquip AE102/624-size-code" every 10 inches.

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



Aeroquip Part #	Inside Dia.	Use with Clamp	Use w/ Hose# 303 / 111	Use w/ Hose #601	Use w/ Hose # AE246	Use w/ Hose # MIL-H-6000	Use w/ Hose # 666	Weight lbs. per ft
AE102-8	1/2	900591B-1C	-3	-4	-4	1/4	-3, -4, -5	.112
AE102-9	9/16	900591B-2C	-4	-5	---	1/4	---	.122
AE102-10	5/8	900591B-2C	-5	-6	---	---	---	.142
AE102-11	11/16	900591B-2C	---	---	-6	3/8	-6	.158
AE102-12	3/4	900591B-2C	-6	-8	---	1/2	---	.166
AE102-13	13/16	900591B-2C	---	---	-8	---	-8	.175
AE102-14	7/8	900591B-2C	-8	---	---	5/8	-10	.187
AE102-16	1	900591B-3C	-10	-10	-10	3/4	---	.195
AE102-18	1-1/8	900591B-3C	-12	-12	---	---	---	.226
AE102-20	1-1/4	900591B-3C	---	---	---	---	---	.248

AERODUCT DUCTING

SCAT - One ply silicone rubber impregnation with helical copper-coated high carbon steel wire inside from -80° F to +500° F. (Red) Available in 11 ft. lengths.

SCEET - Two ply silicone rubber impregnation with helical copper-coated wire inside with wire between plies from -80° F to +500° F. (Red) Available in 11 ft. lengths.

Inside Diameter	Scat	Sceet
3/4"	SCAT-3	SCEET-3
1"	SCAT-4	SCEET-4
1-1/4"	SCAT-5	SCEET-5
1-1/2"	SCAT-6	SCEET-6
1-3/4"	SCAT-7	SCEET-7
2"	SCAT-8	SCEET-8
2-1/2"	SCAT-10	SCEET-10
3"	SCAT-12	SCEET-12

BAND-IT CLAMPS

Use with Aeroquip Firesleeve



Aeroquip Part #	Band-It Part #
900591B-1C	JS242
900591B-2C	JS252
900591B-3C	JS253

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 white stripe consisting of the size, cure date in quarter and year, and specification.

Part Number	Tube Size	Inside Diameter	Outside Diameter	Operating P.S.I.	Proof P.S.I.	Burst P.S.I.
MIL-DTL-6000D-1/4	1/4	.250	.585	250	500	1000
MIL-DTL-6000D-3/8	3/8	.375	.713	250	500	1000
MIL-DTL-6000D-1/2	1/2	.500	.840	250	500	1000
MIL-DTL-6000D-5/8	5/8	.625	.965	250	500	1000
MIL-DTL-6000D-3/4	3/4	.750	1.09	250	500	1000
MIL-DTL-6000D-1	1	1.0	1.34	250	500	1000

AE246 HIGH PRESSURE TEFLON HOSE

AEROQUIP WIRE REINFORCED TEFLON HOSE ASSEMBLIES
SWIVEL FLARED TO SWIVEL FLARED

Design Features:

- Superior vibration resistance, low volumetric expansion, and high temperature resistant
- High Pressure
- Lightweight
- Meets performance requirements of AS1339
- 50% tighter bend radius
- Improved flexing characteristics
- Fluid temperatures: -67°F to +400°F
- Available in sizes -4 thru -10
- Available with "super gem" or "super-C" fittings
- Capable of conducting current up to 12 micro amps with a potential of 1,000 volts.

AE246 Hose



Construction: Teflon hose reinforced with Hi-Pac™ single wire braid.

Conductivity: Designed to eliminate electrostatically induced hose failures. The tube is capable of conducting a direct current equal to or greater than 6 µA in sizes -4, -6, and -8; 12 µA in -10 size and up, with a potential of 1,000 volts.

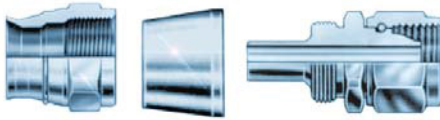
Application: High pressure and high temperature service. Unaffected by fuels, oils, coolants or solvents. Ideal for hydraulic systems.

Basic Spec: exceeds all requirements of AS1339

Identification: Identification bands show specification numbers, manufacturer's code numbers, operating pressure, assembly date and other required information

	Hose Size			
	-4	-6	-8	-10
Tube Size	1/4	3/8	1/2	5/8
Hose I.D. (Min)	.212	.298	.391	.485
Hose O.D. (Max)	.390	.475	.605	.720
Minimum Bend Radius (Inches)	1.50	2.50	2.88	3.25
Operating Pressure (PSI)	3,000	3,000	3,000	3,000
Proof Pressure (PSI)	6,000	6,000	6,000	6,000
Min High Temp. Burst Pressure (PSI)	12,000	10,500	10,500	9,000
Min Room Temp. Burst Pressure (PSI)	16,000	14,000	14,000	12,000

3-PIECE FITTING "super gem"



The "super gem" fitting provides permanent protection against leakage, after high temperature aging and pressure up to 250,000 cycles or more. The reason for this performance is the separation of the sealing function from the retention function.

"Super Gem" fitting's have a dry lube (molybdenum disulfide) coating on the nipple male threads, a permanent coating that requires no additional lubrication during assembly.

Fitting Part	Material	Specification
Nut	Crescent steel (304)	QQ-S-763
Wire	Crescent steel (305)	AMS5685
Nipple	Crescent steel (304)	QQ-S-763
Sleeve	Crescent steel (17-4 PH)	AMS5643
Socket	Crescent steel (304)	QQ-S-763

2-PIECE FITTING "super-C"



Aeroquip "super-C" permanently attached fittings consist of a nipple assembly and a socket which become an integral assembly when attached to AE246 hose.

The service proven "super-C" fittings also feature corrosion resistant materials and reduced envelope dimensions. Its weight saving construction makes it the lightest fitting available in most sizes.

Fitting Part	Material	Specification
Nut	Crescent steel (304)	QQ-S-763
Wire	Crescent steel (305)	AMS5685
Nipple	Crescent steel (304)	QQ-S-763
Socket	Crescent steel (304)	QQ-S-763

THREAD

Size	Thread
-4	.4375-20
-6	.5625-18
-8	.750-16
-10	.875-14

STRAIGHT ASSEMBLIES

Part Number Key

AE246 0000 - G - 0185

Base # for all straight assemblies

Size code chart

-4	-6	-8	-10
E	G	H	J

SEE CHART BELOW

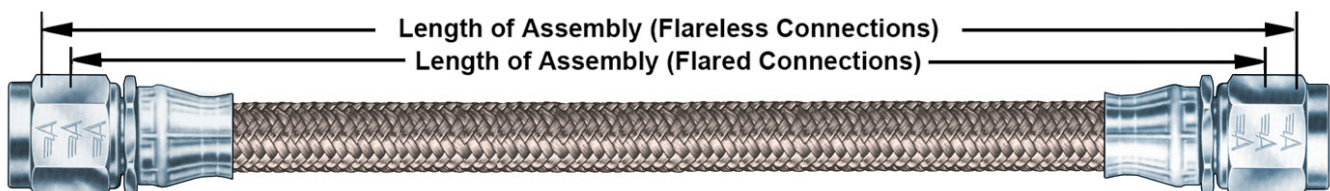
Assembly length in inches, always 4 digits; last digit indicates fractional length in 1/8's of an inch

AE102 FIRE SLEEVE

available on AE246 assemblies



Lockwire Holes	Fitting Ends	* Sleeving *	
		None	AE102
0	37° Flared	0500	0501
2	37° Flared	0550	0551

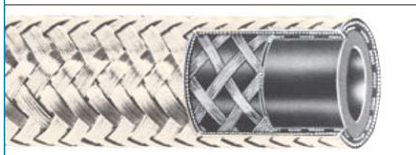


601/AE701 MEDIUM PRESSURE RUBBER HOSE

AEROQUIP WIRE REINFORCED SYNTHETIC RUBBER HOSE ASSEMBLIES
SWIVEL FLARED TO SWIVEL FLARED

- Design Features:**
- Flexibility
 - Light weight
 - Non-age sensitive
 - Fluid temperatures: -65°F to +300°F
 - TSO C53a, Type A & Type C approvals (fire sleeved)
 - Mil-Spec Approvals:
 - Mil-H-8379L/1 through Mil-H-83796/9 Assemblies
 - Mil-H-83797 Hose, Mil-F-83798 Fittings
 - Available in sizes -3 thru -10
 - Available with polyester/integral sleeve
 - Field attachable fittings

601/AE701 Hose



Construction: Synthetic rubber inner tube w/ 2 layers of stainless steel wire braid reinforcement.

Application: Fuel, oil, & coolants.

Basic Spec: MIL-H-83797, TSO C53a, Type A

AE501 Hose-Integral Abrasion Resistant Cover



Construction: 601/AE701 hose overlaid w/ a blue braided chafeguard cover of tough polyester yarn.

Application: Fuel, oil, & coolants.

Basic Spec: MIL-H-83797, TSO C53a, Type A

AE401 Hose-Integral Fire Sleeve



Construction: 601/AE701 hose with an integral cover of silicone rubber compound.

Application: Fuel, oil, & coolants.

Basic Spec: MIL-H-83797, TSO C53a, Type C

	Hose Size					
	-3	-4	-5	-6	-8	-10
601/AE701 Hose O.D. (Max)	.398	.462	.508	.571	.673	.820
AE501 Hose O.D. (Max)	---	.550	---	.659	.761	.895
AE401 Hose O.D. (Max)	---	.755	---	.864	.966	1.11
Hose I.D. (Min)	.141	.204	.266	.329	.415	.539
Minimum Bend Radius (Inches)	1.75	2.00	2.25	2.50	3.50	4.00
Operating Pressure (PSI)	1000	1000	1000	1000	1000	1000
Proof Pressure (PSI)	3000	3000	3000	3000	2500	2500
Minimum Burst Pressure (PSI)	6000	6000	6000	6000	5000	5000

END FITTING



Nut: -3, -4, & -5 are steel, AMS 5024 (C1137)
-6 & up are aluminum, AMS 4119 (2024)

Nut Wire: Crescent steel, AMS 5685 (305)

Nipple: -3, -4, & -5 are steel, AMS5024 (C1137)
-6 & up are aluminum, AMS 4119 (2024)

Elbow: -3, -4, & -5 are steel, AMS 5024 (C1137)
-6 & up are aluminum, AMS 4117 (6061)

Socket: all sizes are aluminum AMS 4117 (6061)

THREAD

Size	Thread
-3	.375-24
-4	.4375-20
-5	.500-20
-6	.5625-18
-8	.750-16
-10	.875-14

STRAIGHT ASSEMBLIES

Part Number Key

AE701XXXX - G - 0185

Base # for
all straight
assemblies

Size code
(see below)

Assembly length in
inches, always 4
digits; last digit
indicates fractional
length in 1/8's of an
inch

Dash Size	3	4	5	6	8	10
Letter Code	B	E	F	G	H	J



Hose Size	601/AE701 Hose Assembly Base Number	AE401 Hose Assembly Base Number	AE501 Hose Assembly Base Number	601/AE701 w/ AE102 Firesleeve Hose Assembly Base Number
-3 thru -10	AE7010000	AE7013106	AE7013110	AE7010001

666 MEDIUM PRESSURE TEFLON HOSE

AEROQUIP WIRE REINFORCED TEFLON HOSE ASSEMBLIES
SWIVEL FLARED TO SWIVEL FLARED

Design Features:

- Flexibility
- Lightweight
- Available in sizes 3 thru 8
- Fluid temperatures: -65°F to +275°F
- Able to withstand prolonged flexing and vibration
- Capable of conducting a direct current
- Mil-Spec Approvals:
 - Mil-DTL-25579C Assemblies
 - Mil-DTL-27267 Hose
- Essentially zero moisture absorption
- Chemical inertness & anti-adhesive characteristics
- Aluminum CompressionCrimp fittings

666 Hose



Construction: Inner tube is made of a spiral extruded Teflon resin reinforced with stainless steel and covered with a Type 300 Series steel wire braid.

Conductivity: The Teflon liner has sufficient conductivity to prevent electrostatically induced hose failures. The tube is capable of conducting a direct current equal to or greater than 10 micro amps in sizes 4 thru 8, and 20 micro amps in size 10 and above, with a potential of 1,000 volts.

Application: Aeroquip brand Teflon hoses are unaffected by all fuels, oils, alcohols, coolants or solvents and are also inert to acids both concentrated and diluted, and propellants used in missiles. This is why the 666 Teflon hose may be used for all hydrocarbon fuel systems at pressures up to 600 psi.

Basic Spec: 666 hose assemblies and compression fittings all comply with the MIL-DTL-25579C industry standard for 1500 psi, high temperature line for aircraft and missile fluid systems.

Identification: Identification bands show specification numbers, manufacturer's code numbers, operating pressure, assembly date and other required information.

Hose Size

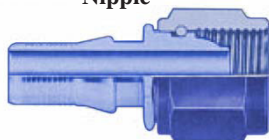
	-3	-4	-5	-6	-8
Part Number	AE240-3	666-4	666-5	666-6	666-8
Hose I.D. (Min)	.125	.188	.250	.313	.406
Hose O.D. (Max)	.268	.343	.406	.469	.585
Operating Pressure (PSI)	1,500	1,500	1,500	1,500	1,500
Proof Pressure (PSI)	3,000	3,000	3,000	3,000	3,000
Minimum Burst Pressure (PSI)	7,500	12,000	10,000	9,000	8,000
Bend Radius (Min)	1.50	2.00	2.00	4.00	4.62

COMPRESSIONCRIMP FITTING

Socket



Nipple



Crimped

The unique combination of the "ramped" nipple and the crimping pattern used on the aluminum compression crimp fitting results in superior fitting retention under pressure. The fitting design effectively traps and holds the wire reinforcement of the hose in the area of the ramp on the fitting nipple.

THREAD

Size	Thread
-3	.375-24
-4	.4375-20
-5	.500-20
-6	.5625-18
-8	.750-16

When ordering fitting: Socket MUST BE ordered separately under Aeroquip # AE21498(code) size code

STRAIGHT ASSEMBLIES

Part Number Key

AE3660000 - G - 0185

Base # for all straight assemblies

Size code (see below)

Assembly length in inches, always 4 digits; last digit indicates fractional length in 1/8's of an inch

Fitting Part	Material	Specification
Nut	2024-T851 Aluminum	QQ-A-225/6 or AMS 4119
Wire	Crescent Steel (305)	AMS 5685
Nipple	2024-T851 Aluminum	QQ-A-225/6 or AMS 4119
Socket	Crescent Steel (304)	QQ-S-763 or AMS 5565

Dash Size	3	4	5	6	8
Letter Code	B	E	F	G	H



Dash Size	Material	MS Style Code	Assembly Base Number	Nipple A Part Number	Nipple B Part Number
-3 & -4	Corrosion-resistant Steel	A	AE3660240	AE21740	AE21740
-4 thru -8	Corrosion-resistant Steel	A	AE3660000	AE21496	AE21496

STRATOFLEX 111 MEDIUM PRESSURE HOSE & FITTINGS

111 HOSE {MIL-H-8794} CONSTRUCTION:

Inner tube is made of a seamless synthetic rubber compound reinforced by one fiber braid and one high tensile steel wire braid. Outer cover is a fiber braid impregnated with oil and mildew resistant rubber adhesive.



OPERATING TEMP: -65°F to +250°F

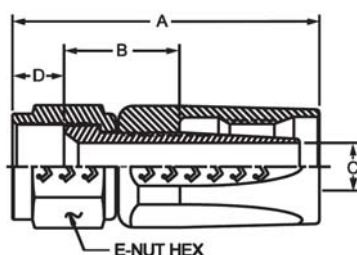
APPLICATION: Aircraft hydraulic, coolant, pneumatic, oil and fuel systems. {specified in MS33620}

IDENTIFICATION: Stratoflex name and part number, specification number, size, quarter and year of manufacture, and federal ID number.

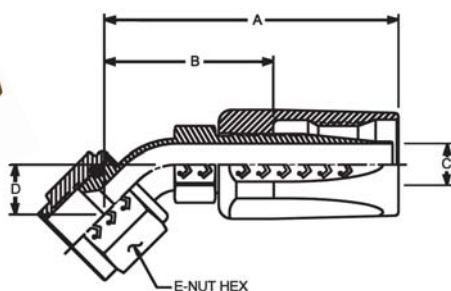
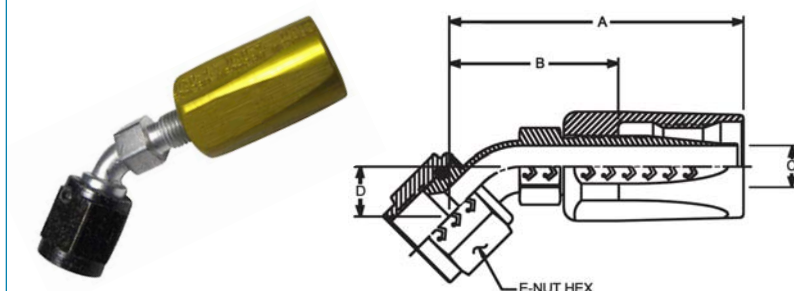
Part Number	Tube Size	Inside Dia.	Outside Dia.	Nom. P.S.I.
111-3	.125	.125	.450	3,000
111-4	.188	.188	.520	3,000
111-5	.250	.250	.580	3,000
111-6	.312	.312	.670	2,000
111-8	.406	.406	.770	2,000
111-10	.500	.500	.920	1,750

Straight Flared Fitting

Part Number	A	B	C	D	Hose Size	Thread Size
300-3S	1.62	.65	.13	.32	111-3	.375-24
300-4S	1.74	.63	.17	.35	111-4	.4375-20
300-5S	1.90	.74	.23	.38	111-5	.500-20
300-6S	2.04	.76	.30	.38	111-6	.5625-18
300-8D	2.51	.93	.39	.43	111-8	.750-16
300-10D	2.79	.99	.49	.51	111-10	.875-14



45° Elbow Flared Fitting



Part Number	A	B	C	D	Hose Size	Thread Size
646-4S	1.87	1.12	.13	.35	111-4	.4375-20
646-5S	2.12	1.34	.17	.42	111-5	.500-20
646-6S	2.28	1.38	.24	.44	111-6	.5625-18
646-8D	2.70	1.55	.36	.46	111-8	.750-16
646-10D	2.99	1.70	.46	.54	111-10	.875-14

111 HOSE ASSEMBLIES



Assembly Part Number	Hose Part Number	Fittings 2 Per Assembly	Min Bend Radius	Fitting Thread Size
111417-3S-L	111-3	300-3S	3.00	.375-24
111417-4S-L	111-4	300-4S	3.00	.4375-20
111417-5S-L	111-5	300-5S	3.38	.500-20
111417-6S-L	111-6	300-6S	4.00	.5625-18
111417-8D-L	111-8	300-8D	4.63	.750-16
111417-10D-L	111-10	300-10D	5.50	.875-14

EXAMPLE OF PART NUMBER

111417 - 8 D - 018 5

Base # _____
 Size _____
 Fitting material code _____
 Assembly Length (L)
 in Inches _____
 in Eighths _____

STRATOFLEX 193 LOW PRESSURE HOSE & FITTINGS



193 HOSE {MIL-H-5593} CONSTRUCTION:

Inner tube is made of a seamless Buna-N reinforced by a braid of high tensile fiber cord. Outer cover is a synthetic rubber compound.

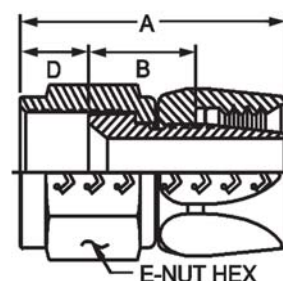
OPERATING TEMP: -65°F to +165°F

APPLICATION: Low pressure air or vacuum instrument systems, automatic pilots & lines to pressure gauges used with these systems {specified in MS33620}. Vacuum service 20"Hg sizes -2 thru -6; 10"Hg sizes -8 and -10.

IDENTIFICATION: Black cover, a yellow symbol "LP-MIL-H-5593-size", date of manufacture (quarter year/year) and manufacturer's code. "Stratoflex 193-size" is marked on other side of hose. Yellow markings are repeated every 12 inches.

Hose				Hose Fitting				
Part Number	Inside Dia.	Outside Dia.	Nom. P.S.I.	Part Number	A	B	C	D
193-2	.125	.350	300	311-2D	1.09	.39	.06	.34
193-3	.188	.410	250	311-3D	1.18	.46	.13	.32
193-4	.250	.480	200	311-4D	1.26	.46	.17	.35
193-6	.375	.600	150	311-6D	1.40	.54	.30	.38
193-8	.500	.750	150	311-8D	1.66	.67	.39	.43
193-10	.625	.870	150	311-10D	1.94	.72	.48	.51

311 HOSE FITTING



193 HOSE ASSEMBLIES



Assembly Part Number	Hose Part Number	Fittings 2 Per Assembly	Min Bend Radius	Fitting Thread Size
193000-2D-L	193-2	311-2D	2.00	.3125-24
193000-3D-L	193-3	311-3D	2.00	.375-24
193000-4D-L	193-4	311-4D	4.00	.4375-20
193000-6D-L	193-6	311-6D	4.00	.5625-18
193000-8D-L	193-8	311-8D	6.00	.750-16
193000-10D-L	193-10	311-10D	6.00	.875-14

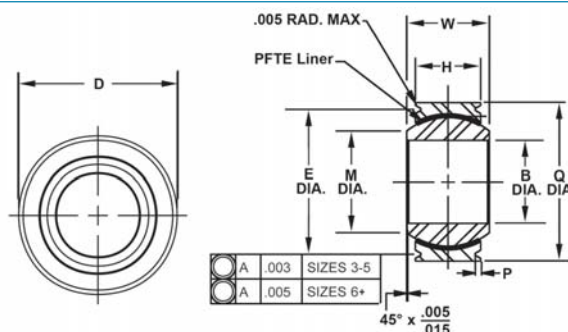
EXAMPLE OF PART NUMBER

193000 - 8 D - 018 5

Base # _____
 Size _____
 Fitting material code _____
 Assembly Length (L)
 in Inches _____
 in Eighths _____

MS14101

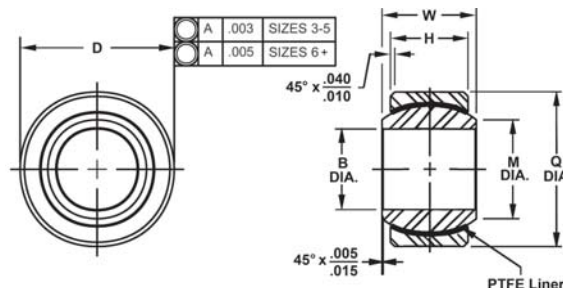
Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Grooved, Outer Ring



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			.375	.660	8750	700	5460	0.25 - 8.0	0 - 1.0	.030
-6	.3750	.8125	.312	.475	.035	9	.406	.702	10540	1100	6600			

MS14102

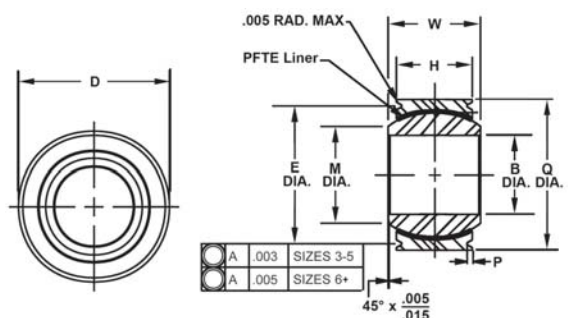
Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Chamfered, Outer Ring



MS14102	B +.0000 -.0005	D +.0000 -.0005	H +.005	M MIN	Q MIN	W +.000 -.002	Static Limit Load (lbs)		Oscillating Load (lbs)	No-Load Rotational Breakaway Torque		WT. Lb. Max (Ref)
							Radial	Axial		Standard	"K" Type	
-4	.2500	.6250	.327	.300	15	.437	5500	1770	4900	0.25 - 5.0	0 - 0.5	.031
-5	.3125	.6875	.317	.360	14	.437	9400	1640	6050			
-6	.3750	.8125	.406	.46	8	.500	13700	2630	8310	0.25 - 8.0	0 - 1.0	.060

MS14103

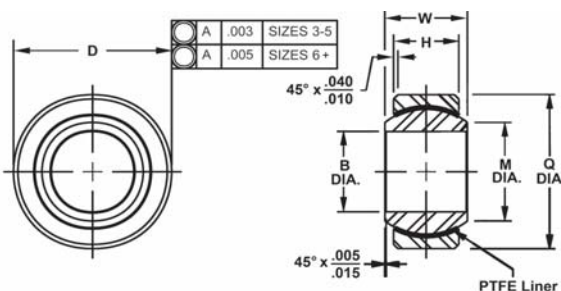
Bearing, Self-Lubricating,
Self-Aligning, Wide,
Grooved Outer Ring



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		14		.625	9400	1640	6050			
-6	.3750	.8125	.406	.466	.035	8	.750	.712	13700	2630	8310	0.25 - 8.0	0 - 1.0	.060
-10	.6250	1.1875	.567	.747		12		1.087	29000	6130	20250			

MS14104

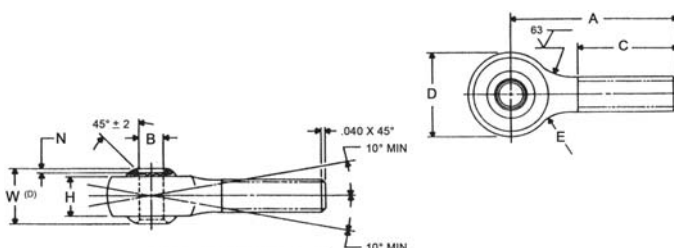
Bearing, Self-Lubricating,
Self-Aligning, Narrow,
Chamfered Outer Ring



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

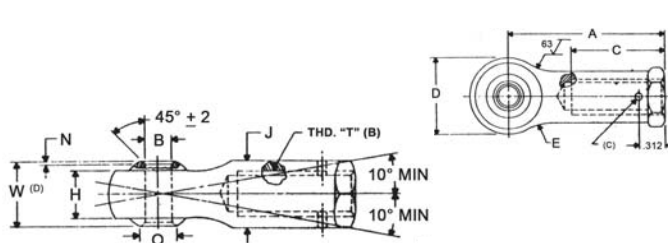
Bearing, Double Row
Rod End External Thread
Self-Aligning, Anti Friction
"C" After Dash #
Indicates Key Slot



MS21151	Bore Size Nom.	A ± .031	B + .0000 - .0003	C ± .031	D ± .010	E Nom. Radius	H ± .010	N + .015 - .000	O Min. Dia.	T Thread UNJF-31	W + .000 - .005
-2	#10	1.375	.1900	.750	.781	.422	.328	.005	.276	.1900-32RH	.437
-4	#10	1.375	.1900	.750	.781	.390	.328	.005	.276	.3750-24RH	.437
-6	#10	1.812	.1900	.938	.781	.562	.438	.005	.307	.2500-28RH	.500
-7	#10	1.563	.1900	1.00	.781	.344	.328	.005	.276	.2500-28RH	.437
-8	1/4	1.875	.2500	1.125	.938	.469	.438	.005	.340	.3750-24RH	.593
-9	1/4	1.875	.2500	1.125	.938	.469	.438	.005	.340	.3750-24LH	.593

MS21153

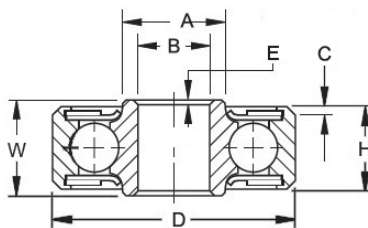
Bearing, Double Row
Internal Thread
Self-Aligning, Anti Friction
"C" After Dash #
Indicates Locking Slot



MS21153	Bore Size Nom.	A ± .031	B + .0000 - .0003	C ± .031	D ± .010	E Nom. Radius	H ± .010	J Dia. ± .010	K Bead or Hex Dia.	N + .015 - .000	O Min. Dia.	T Thread UNJF-31	W + .000 - .005
-1	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead .438	.005	.276	.2500-28RH	.437
-3	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead .438	.005	.276	.2500-28RH	.500
-5	#10	1.375	.1900	.750	.781	.390	.328	.375	Bead .438	.005	.276	.2500-28LH	.437
-6	1/4	1.469	.2500	.750	.938	.468	.436	.436	Hex .438	.005	.340	.3125-24RH	.593
-7	1/4	1.469	.2500	.750	.938	.468	.436	.436	Hex .438	.005	.340	.3125-24LH	.593

MS27640

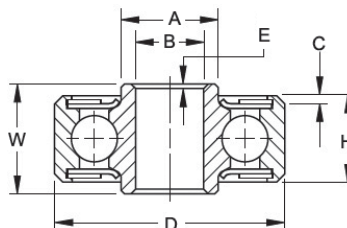
Airframe Bearing
Antifriction, Heavy Duty



MS Dash # MS27640	MFG. P/N	B BORE (b) +.0000 -.0005	D OUTSIDE DIAMETER (a) (b) +.0000 -.0005	W WIDTH INNER RING (a) +.000 -.005	H WIDTH OUTER RING (a) +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES	
											CASE I	CASE II
-3A	KP3L	.1900	.6250	.245	.203	.280	.005	.010	1880	900	1700	1450
-4	KP4	.2500	.9014	.484	.335	.390		.032	2680	1200	2410	2030
-5	KP5	.3125	1.2500	.558	.375	.469			5620	2500	4900	3970
-6	KP6	.3750	1.4375	.620	.469	.591	.015		7910	3500	6540	5410

MS27641

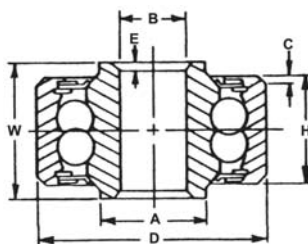
Airframe Bearing
Antifriction Intermediate Duty



MS Dash # MS27641	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)	
											CASE I	CASE II
-3	KP3A	.1900	.6250	.297	.234	.297	.005	.016	1560	700	1500	1250
-4	KP4A	.2500	.7500	.281	.219	.380	.005	.016	1880	900	1690	1450
-5	KP5A	.3125	.8125	.297	.234	.415	.015	.016	2190	1000	1820	1600
-6	KP6A	.3750	.8750	.313	.250	.495	.015	.016	2500	1100	1920	1710
-8	KP8A	.5000	1.125	.375	.313	.616	.015	.016	3910	1700	2870	2550
-10	KP10A	.6250	1.375	.406	.344	.768	.015	.032	6700	3000	4980	4360

MS27643

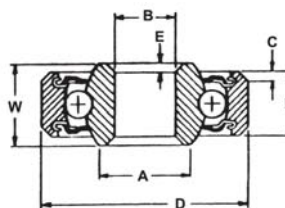
Airframe Bearing
Antifriction, Self-Aligning
Light and Heavy Duty



MS Dash # MS27643	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING (LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)		AXIAL PLAY INCH MAX
											CASE I	CASE II	
-3	DSP3	.1900	.7774	.500	.392	.304	.005	.022	1420	200	1420	1220	.0055
-4	DSP4	.2500	.9014	.687	.454	.430	.005	.032	1780	300	1780	1600	.0055
-5	DSP5	.3125	1.250	.812	.656	.515	.015	.032	3740	600	3740	3300	.0060

MS27645

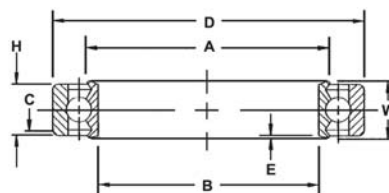
Airframe Bearing
Antifriction, Self-Aligning
Light and Heavy Duty



MS Dash # MS27645	MFG. P/N	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E INNER RING BORE CHAMFER +.015 -.000	C OUTER (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING(LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)		AXIAL PLAY INCH MAX
											CASE I	CASE II	
-3A	KSP3L	.1900	.6250	.245	.303	.253	.005	.016	550	100	550	480	.023
-4A	KSP4A	.2500	.7500	.281	.219	.321	.005	.016	900	200	900	770	.025
-5A	KSP5A	.3125	.8125	.297	.234	.381	.015	.016	1000	200	950	815	.028
-6A	KSP6A	.3750	.8750	.313	.250	.453	.016	.016	1120	200	1120	990	.030
-3	KSP3	.1900	.7774	.297	.270	.290	.005	.022	900	200	900	770	.023
-4	KSP4	.2500	.9014	.484	.335	.390	.005	.032	1410	300	1230	1230	.025
-5	KSP5	.3125	1.250	.558	.375	.561	.015	.032	2190	300	2190	1890	.028
-6	KSP6	.3750	1.438	.620	.469	.607	.015	.032	2980	400	2980	2580	.030

MS27646

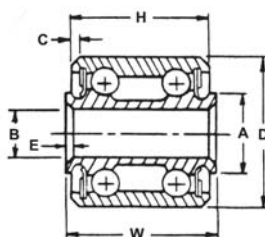
Airframe Bearing
Antifriction, Extra Light Duty



MS Dash # MS27646	B BORE +.0000 -.0005	D OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.000 -.005	H WIDTH OUTER RING +.000 -.005	A SHOULDER DIAMETER INNER APPROX	E AND C CORNER CHAMFER x 45° (c) +.020 (b) -.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 (c) RING OD CHAMFER +.015 -.000	RADIAL LIMIT LOAD RATING LBS	THRUST LIMIT LOAD RATING LBS	RADIAL LOAD RATING(LBS) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES (e)	
										CASE I	CASE II
-4A	.2500	.6250	.562	.500	.338	.005	.016	1400	500	1050	960
-4	.2500	.7500	.875	.750	.372	.005	.016	2700	900	2070	1850
-5	.3125	.8750	.938	.813	.466	.005	.016	5140	1600	2600	2320
-6	.3750	1.063	1.188	1.063	.570	.005	.016	8440	2600	4220	3740
-8	.5000	1.438	1.500	1.375	.709	.005	.032	15520	4700	7610	6520

3M™ PRODUCT LINE

ELECTRICAL TAPE

Black, Premium grade vinyl electrical tape
Highly conformable, Super stretchy
Resists UV rays, abrasion and corrosion

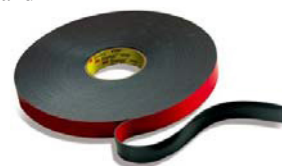
Part Number	Size	Length
3M-SUPER33+3/4X20	3/4"	20 ft.
3M-SUPER33+3/4X44	3/4"	44 ft.
3M-SUPER33+3/4X36	3/4"	36 yds.
3M-SUPER33+1X36	1"	36 yds.



5958FRVHB™ FLAME RETARDANT TAPE

Black, Pressure Sensitive, Very conformable, Double-sided
High strength, Durable, Used for bonding,
attaching, cushioning, dampening, and
impact resistance
40.0 mil thick

Part Number	Size
3M-5958FR-1X3	1" x 3"
3M-5958FR-3X3	3" x 3"



PAINTER'S TAPE - 2090

ScotchBlue™ Multi-use
Masking Tape
60 yds. per roll

Part Number	Size
3M-2090-3/4	3/4"
3M-2090-1	1"
3M-2090-1-1/2	1-1/2"
3M-2090-2	2"



ALUMINUM FOIL TAPE - 425

Dead-soft aluminum foil backing
Applications include masking
of sensitive parts to protect
from damage during aircraft
paint stripping. 60 yds/roll

Part Number	Size
3M-425-1/2	1/2"
3M-425-3/4	3/4"
3M-425-2	2"



SCOTCH® FINE LINE - 218

Pin striping tape
Thin, conformable green
polypropylene film
Instant adhesion
60 yds per roll

Part #	Size
3M-218-1/4	1/4"
3M-218-1/2	1/2"
3M-218-1	1"



GLASS CLOTH TAPE - 69

3M™ Glass Cloth Electrical Tape
Designed for use in 600 volt dry
location applications. Non-corrosive
adhesive, conformable, printable,
and flame retardant. 36 yd rolls

Part Number	Width
3M-69-1/2	1/2"
3M-69-3/4	3/4"
3M-69-1	1"



THERMOSETTABLE GLASS CLOTH TAPE - 365

Rubber resin adhesive
For many applications
requiring high adhesion
8.3 mil, 60 yds per roll

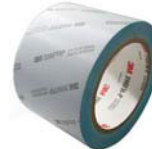
Part Number	Size
3M-365-1	1"
3M-365-2	2"



GLASS CLOTH TAPE - 398-FRP

Strong, High Temp. resistance,
Tough, Durable, Superior
Abrasion resistance
Flame retardant
36 yds per roll

Part Number	Size
3M-398FRP-2	2"
3M-398FRP-3	3"



VINYL TAPE - 471

High performance vinyl tape,
Vivid colors, Non-corrosive,
flexible, abrasion resistant,
conformable, wear resistant,
clean removal

Part Number	Width	Color
3M-471-3/8BLU	3/8"	Blue

Available in many colors and widths. Contact ECAS, Inc
with your requirements for a Quote.



SCOTCH® TRANSFER TAPE - 950

Attaches foam & gaskets
Excellent adhesion to most
plastics, high tack
60 yds per roll

Part Number	Size
3M-950-1	1"
3M-950-2	2"



EROSION TAPE - 8672

Thermoplastic polyurethane elastomer.
Scratch, puncture
and impact resistant.
36 yds per roll

Part Number	Size
3M-8672-1-1/4	1-1/4"
3M-8672-2	2"
3M-8672-3	3"
3M-8672-4	4"



POLY MASKING TAPE - 5903

Poly tape comprised of heavy duty
polyethylene film &
synthetic rubber adhesive.
UV weather resistant
Color: Red, 60 yds/roll

Part #	Size
3M-5903-1-7/8	1.875"
3M-5903-4	4"



VHB™ TAPE - 4920

White, High Strength
Double-sided, Pressure
Sensitive, 15.0 mil thick,
72 Yds per roll

Part Number	Size
3M-VHB4920-3/4	3/4"
3M-VHB4920-1	1"



VHB™ TAPE - 4950

White, High Strength
Double-sided, Pressure
Sensitive, 45.0 mil thick,
36 Yds per roll

Part Number	Size
3M-VHB4950-1/2	1/2"
3M-VHB4950-3/4	3/4"
3M-VHB4950-1	1"



3M™ PRODUCT LINE

GREEN CORPS™ CUT OFF WHEEL

Provide high cut rates and long life on most materials including: fiberglass, stainless steel, steel, and Aerospace alloys.



Part Number	Dia.	Thk	Hole Size
3M-01985	3"	1/32"	3/8"
3M-01986	3"	1/16"	3/8"
3M-01994	4"	1/32"	3/8"
3M-82238	3"	1/32"	1/4"
3M-88755	4"	1/32"	1/4"

ROLOC™ 361F DISC

Aluminum oxide Roloc™ disc, YF weight, water resistant polyester cloth backing. Resin bonded for heat resistance. Can be run wet or dry.



Part Number	Size	Grade	Part Number	Size	Grade
3M-22399	2"	50 Grit	3M-22402	2"	100 Grit
3M-22394	3"	50 Grit	3M-22403	2"	120 Grit
3M-22401	2"	80 Grit	3M-22406	3"	120 Grit
3M-22404	3"	80 Grit	3M-13873	2"	180 Grit

SCOTCH-WELD™ THREADLOCKER

Scotch-Weld™ Adhesives that cure and seal threaded assemblies and help prevent vibration loosening and/or leakage. Also provides excellent vibration, corrosion, and shock resistance.



Comparable to:
Loctite Threadlocker

Part #	Color
3M-TL22-50	Purple
3M-TL42-50	Blue
3M-TL62-50	Red
3M-TL77-50	Red

ROLOC™ DISC PAD ASSEMBLY

Backup pad for Roloc™ abrasive discs. Assembly includes a Roloc™ shank and adapter. 1/4-20 INT thread.



Part Number	Size
3M-05538	1"
3M-05539	2"
3M-05540	3"

LIGHT DUTY HAND PAD

Scotch-Brite™ Sanding Pad
For light cleaning and fine finishing.
6" x 9"



Part #	Grade
3M-7445	Fine

HEAVY DUTY HAND PAD

Scotch-Brite™ Sanding Pad
For heavy cleaning, deburring, & finishing.
6" x 9"



Part #	Grade
3M-7440	Med

SCOTCHMATE FASTENERS

Hook and Loop, Black Sticky Back
2" x 50 yds per Roll



Part Number	Type
3M-SJ3572-2H	Hook
3M-SJ3572-2L	Loop

DP420 EPOXY ADHESIVE

Scotch-Weld™ Epoxy Adhesive is a toughened, two-part epoxy adhesive. 2:1 mix ratio, 20 minute work life. Handling strength in approx 2 hours.



Part #	Size
3M-DP420-400	400ml

DP460 EPOXY ADHESIVE

Scotch-Weld™ Epoxy Adhesive is a toughened, two-part epoxy adhesive. 2:1 mix ratio, 60 minute work life. Handling strength in approx 4 hours.



Part #	Size
3M-DP460-400	400ml

EPX™ APPLICATOR NOZZLE

Scotch-Weld™ EPX™ Helical Cartridge Nozzle. Designed for both the 200ml & 400ml cartridges.



Part Number
3M-9142-6MM

CONTACT ADHESIVE

Scotch-Grip HP 1357
High performance, long bonding range & excellent initial strength.
1 pint cans



Part Number	Color
3M-1357-G	Grey/Olive
3M-1357-N	Natural

RUBBER & GASKET ADHESIVE - 847

Scotch-Grip™ Adhesive Premium, reddish brown, multi-purpose. Bonding, gluing & joining.



Part Number
3M-847-5OZ

1300L ADHESIVE

Scotch-Weld™ Neoprene High Performance Rubber & Gasket Adhesive



Part Number	Size
3M-1300L-1QT	1 Quart
3M-1300L-1GAL	1 Gallon
3M-1300L-5GAL	5 Gallon

DOW CORNING SILICONE SEALANT

Multi-purpose RTV Sealant



Part #	Color
RTV732-CLR-3OZ	Clear
RTV732-WHI-3OZ	White
RTV732-BLK-3OZ	Black

MOMENTIVE SILICONE SEALANTS (Formerly GE)

Available in 3 Colors



Part #	Color
RTV102-WHI-3OZ	White
RTV103-BLK-3OZ	Black
RTV108-CLR-3OZ	Clear

AVBLEND

Micro-lube Oil Supplement
4 cylinder engines require 1 can
per oil change, 6 cylinder engines
require 2.



Part #	Size
AVBLEND	12 oz. Can

CRC SILICONE SEALANTS

For general-purpose sealing, bonding,
protecting, & waterproofing. White is
for high moisture, indoor/outdoor
applications. Clear forms a barely
visible, water-tight seal.



Part #	Color
RTV-WHI-8OZ	White
RTV-CLR-8OZ	Clear

20214

Plexus™ Anti-Static
Plastic Cleaner,
Protectant, & Polish
13 Oz. Aerosol Can



PHF204

Prist® Hi-Flash™ Hi-Flo™
Anti-Icing Aviation
Fuel Additive
20 Oz. Can
MIL-I-85470



PGC13

Prist® Acrylic, Plastic,
and Glass Cleaner
13 Oz. Aerosol Can
MIL-P-008184D



LPS PRODUCTS

11 oz. Aerosol Cans



Part #	Product
LPS-1	LPS-1 - Greaseless Lubricant
LPS-2	LPS-2 - Industrial Strength Lubricant
LPS-3	LPS-3 - Rust Inhibitor

LPS PRODUCTS

Cleaners & Anti-seize
15 oz. Cans



Part #	Product
01420	LPS PreSolve® - Orange Degreaser (15 oz.)
02908	LPS Copper Anti-Seize (1/2 lb. Can)
03520	LPS ZeroTri® - Heavy Duty Degreaser (15 oz.)
04016	LPS NoFlash® - Electro Contact Cleaner (15 oz.)

AEROSHELL GREASE

Aviation Grease
14 oz. Cartridges



Part Number
AEROSHELL 5 GREASE
AEROSHELL 6 GREASE
AEROSHELL 7 GREASE

MOBIL GREASE 28

Aviation Grease
13.7 oz. Cartridge



Part Number
MOBIL GREASE 28

ROYCO 22 CF

Aviation Grease
14 oz. Cartridge



Part Number
ROYCO 22 CF (14oz)

TEMPO AIRCRAFT ENAMEL

Recommended for Interior and Exterior Aluminum or Steel Surfaces

Product	Part #
Black	A1100
Flatblack	A1102
Medium Gray	A1105
Gloss White	A1109
Red	A1120



TEMPO AIRCRAFT ENGINE ENAMEL

16 oz. Spray Cans

Product	Part #
Lycoming Gray	A219
Continental Gold	A239
Gloss Black	A241



TEMPO ZINC PHOSPHATE PRIMERS

For bare Aluminum and Steel - 11 oz. Cans

Product	Part #	Old #
Yellow - Primer	A701	A7-6889
Green - Primer	A702	A7-6889A



TEMPO EPOXY PROPELLER COATING

12 oz. Cans

Product	Part #
Flat Black	A150
Medium Gray	A151
White	A152



LACING CORD

MIL-T-43435B

Black, Type 1



CORROSION X

Part # 80102

Corrosion Inhibitor

16 oz. Cans



NAS1756-24

Warning Streamer



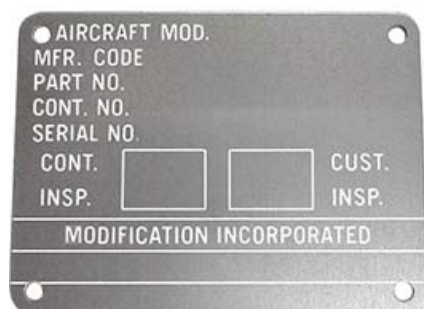
BRAKE LINING RIVET

105002-00



ID PLATE

MS27253-1



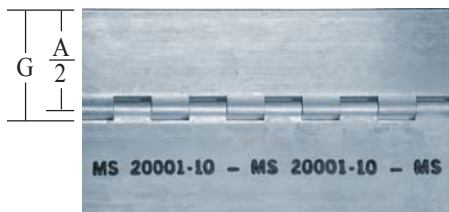
CLEVELAND BRAKE PADS



New #	Old Part #
066-10500	066-105 66-30

MS20001

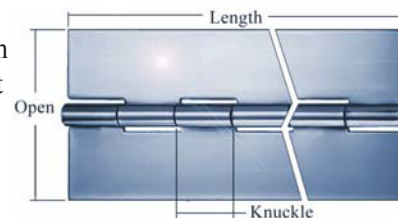
Hinge,
Structural
Extruded
6 Ft. Length



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

MS20257

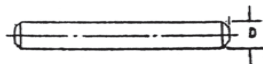
Hinge, Continuous
(P) Anodized Aluminum
(C) Corrosion Resistant
6 Ft. Length



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

MS20253

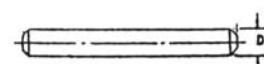
Hinge Pin, 6 ft.
Passivated



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

MS20253P

Hinge Pin, 6 ft.
Cad Plated



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

**** UPS imposes a handling fee for hinges. ****

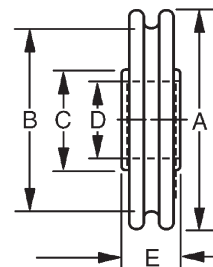
Please consider longer term usage when ordering hinges to reduce your per each cost.

AIRCRAFT PULLEYS

MS20219 - Secondary Control Pulley

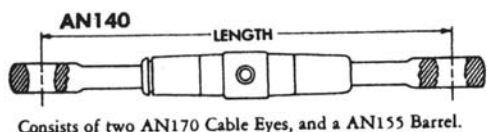
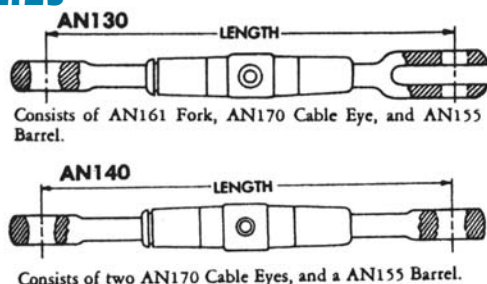
MS20220 - Flight Control Pulley

MS24566 - Anti-friction Bearing, Control Pulley



Pulley	Cable Size	A Dia.	B Dia.	C Dia.	D Dia.	E Dia.	Allowable Load Limit (Lbs.)
MS20219-1	1/16, 3/32	1.312	1.000	.373	.2500	.438	480
MS20219-2	1/16, 3/32	1.750	1.438	.423	.2500	.438	480
MS20219-3	1/16, 3/32	1.750	1.438	.769	.6250	.438	480
MS20219-4	1/16, 3/32	2.625	2.312	.423	.2500	.438	920
MS20220-1	1/8, 5/32, 3/16	1.750	1.255	.465	.3125	.625	500
MS20220-2	1/8, 5/32, 3/16	3.000	2.500	.474	.3125	.625	1680
MS20220-3	1/8, 5/32, 3/16	4.250	3.750	.474	.3125	.625	2500
MS20220-4	1/8, 5/32, 3/16	5.500	5.000	.474	.3125	.625	2500
MS24566-1B	1/16, 5/64, 3/32	1.250	.972	.297	.1900	.297	185
MS24566-2B	1/16, 5/64, 3/32	2.500	2.222	.332	.1900	.297	500
MS24566-3B	1/8, 5/32, 3/16	2.000	1.510	.390	.2500	.484	450
MS24566-4B	1/8, 5/32, 3/16	3.500	3.010	.390	.2500	.484	1200
MS24566-5B	3/16, 1/4	5.000	4.374	.591	.3750	.625	2000

COMPLETE TURNBUCKLE ASSEMBLIES



MS21251

(AN155)

Turnbuckle Barrel



MS21251 Dash #	AN155 Dash #	Thread	Length (In.)	Dia.
-B2S	8S	6-40	2 1/4	.250
-B2L	8L		4	
-B3S	16S	10-32	2 1/4	.344
-B3L	16L		4	
-B5S	32S	1/4-28	2 1/4	.438
-B5L	32L		4	
-B6S	46S	5/16-24	2 1/4	.500
-B6L	46L		4	

MS21260

(AN669)

Stud Terminal,
Long Wire Rope



MS21260		Length	Thread	Cable Dia. (In.)
Left	Right			
-L2LH	-L2RH	3.67	6-40	1/16
-L3LH	-L3RH	3.86	10-32	3/32
-L4LH	-L4RH	4.28	1/4-28	1/8
-L5LH	-L5RH	4.66	1/4-28	5/32
-L6LH	-L6RH	4.78	5/16-24	3/16

MS21260

(AN669)

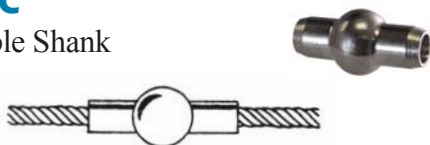
Turnbuckle End Short



MS21260		Length	Thread	Cable Dia. (In.)
Left	Right			
-S2LH	-S2RH	2.79	6-40	1/16
-S3LH	-S3RH	2.98	10-32	3/32
-S4LH	-S4RH	3.40	1/4-28	1/8
-S5LH	-S5RH	3.78	1/4-28	5/32
-S6LH	-S6RH	3.90	5/16-24	3/16

MS20663C

Ball and Double Shank

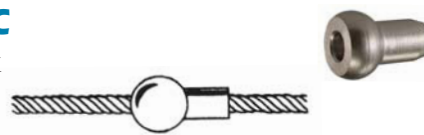


MS20663	Cable Dia. (In.)	Minimum Breaking Strength	Hole Size (In.)
C2	1/16	480	.073
C3	3/32	920	.104
C4	1/8	2,000	.139
C5	5/32	2,800	.169
C6	3/16	4,200	.201

MS20664C

Ball and Shank

Cable End



MS20664	Cable Dia. (In.)	Minimum Breaking Strength	Hole Size (In.)
C2	1/16	480	.073
C3	3/32	920	.104
C4	1/8	2,000	.139
C5	5/32	2,800	.169
C6	3/16	4,200	.201

MS20667

(AN667)

Fork End



MS20667	Length	Cable Dia. (In.)	Pin Hole Dia (In.)
-2	1.572	1/16	.190
-3	1.945	3/32	.190
-4	2.352	1/8	.190
-5	2.655	5/32	.250
-6	3.071	3/16	.313

MS20668

(AN668)

Eye End

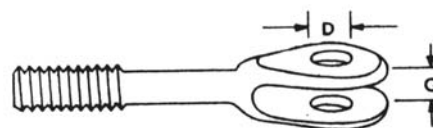


MS20668	Length	Cable Dia. (In.)	Pin Hole Dia (In.)
-2	1.80	1/16	.190
-3	2.16	3/32	.190
-4	2.60	1/8	.190
-5	3.00	5/32	.250
-6	3.19	3/16	.313

MS21252

(AN161)

Turnbuckle Fork

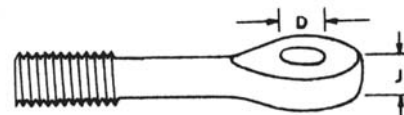


MS Dash #	AN161	Thread	Length	Cable	G	D
MS21252-2RS	AN161-8RS	6-40	1.500	1/16	.109	.190
MS21252-2LS	AN161-8LS		1.500			
MS21252-3RS	AN161-16RS	10-32	1.625	3/32	.156	.190
MS21252-3LS	AN161-16LS		1.625			
MS21252-4RS	AN161-22RS	1/4-28	1.844	1/8	.195	.190
MS21252-4LS	AN161-22LS		1.844			
MS21252-5RS	AN161-32RS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

MS21254

(AN165)

Pin Eye



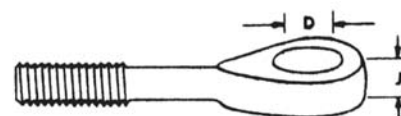
1st Letter Following Dash # Indicates Right or Left.

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

MS21255

(AN170)

Cable Eye



1st Letter Following Dash # Indicates Right or Left.
Last Letter Indicates Short or Long.

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

MS21259

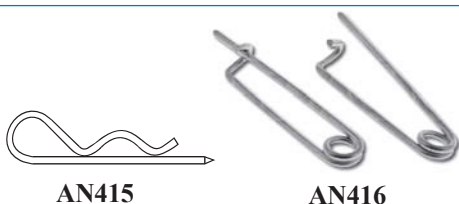
Stud End



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

AN415 AN416

Locking Pins



AN415

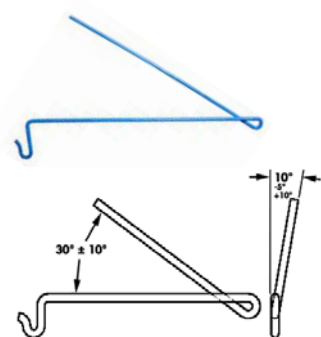
AN416

Part #	Dash #	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

MS21256

Locking Clip
Stainless Steel

Sold in 50 or
100 Quantities



MS21256	Length
1	1.078
2	1.955
3	2.015

AN100

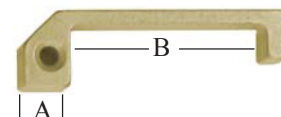
Cable Thimble



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

NAS559

Lock Rod-End



NAS559	Thread O.D.	A	B
1	1/4 & 5/16	.036	.250
2	3/8	.036	.281
3	7/16 & 12	.049	.344

NICOPRESS SLEEVE

MS51844

18- Unplated Copper
28 - Plated Copper



To Fit Cable Dia.	Unplated		Plated	
	MS51844	Mfr.#	MS51844	Mfr.#
1/16	-42	18-1-C	-22	28-1-C
3/32	-43	18-2-G	-23	28-2-G
1/8	-44	18-3-M	-24	28-3-M
5/32	-45	18-4-P	-25	28-4-P

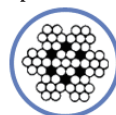
CONTROL CABLE

Per MIL-W83420

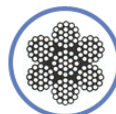
Stainless Steel

7 X 7 Cable	Max. Strength (Lbs.)
1/16 DIA.	480
3/32 DIA.	920
7 X 19 Cable	Max. Strength (Lbs.)
1/16 DIA.	480
3/32 DIA.	920
1/8 DIA.	1700
5/32 DIA.	2400

Close-up view of 7x7 cable

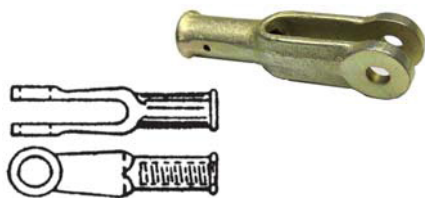


Close-up view of 7x19 cable



MS27975

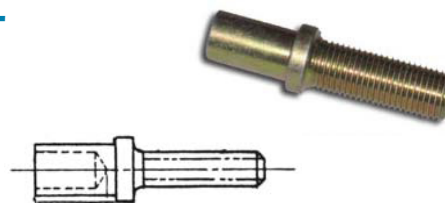
Clevis Rod End



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

AN490HT

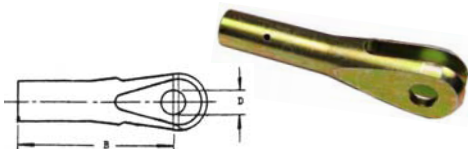
Rod End
Threaded



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

AN665

Clevis Type
Tie Rod



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

AN115

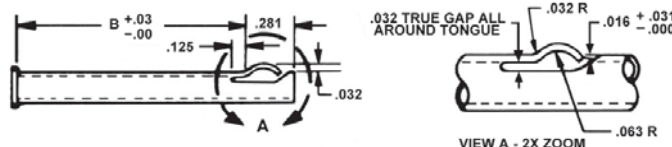
Shackle



Part #	A Diameter	Strength
AN115-8	.188	800 lbs.
AN115-16	.188	1600 lbs.
AN115-21	.188	2100 lbs.
AN115-32	.250	3200 lbs.

NAS427

Pulley Guard Pin



NAS427K	Length	NAS427K	Length
-6	.38	-18	1.12
-9	.56	-20	1.25
-10	.62	-21	1.31
-11	.69	-24	1.50
-12	.75	-26	1.62
-13	.81	-34	2.12
-14	.88	-42	2.62
-16	1.00	-46	2.88

MS20995

Safety Wire

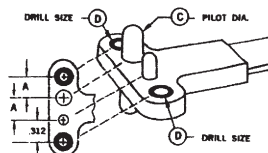
Wire Dia.	Corrosion Resistant (C)	Copper (CU)	Nickel-Copper Alloy (N)
	MS20995	MS20995	MS20995
.020	C20	CU20	N20
.021	C21	CU21	N21
.025	C25	CU25	N25
.032	C32	CU32	N32
.040	C40	CU40	N40
.041	C41	CU41	N41



DRILL SIZE #40

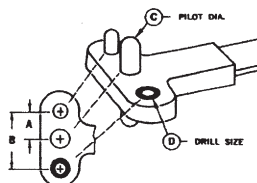
PLATE NUT DRILL JIGS

ONE LUG NUT PLATE



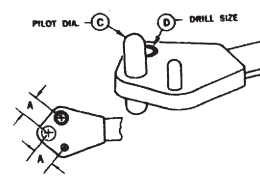
Part No.	Bolt Size Ref.	A	C
AIT518G	#6	.344	.139
AIT518H	#8	.344	.164
AIT518J	#10	.344	.191
AIT518K	1/4"	.344	.248

TWO LUG NUT PLATE



Part No.	Bolt Size Ref.	A	C
AIT518A	#6	.344	.688
AIT518B	#8	.344	.688
AIT518C	#10	.344	.688
AIT518D	1/4"	.500	1.000

CORNER NUT PLATE

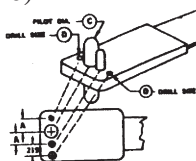


*Drill size #30

Part No.	Bolt Size Ref.	A	C
AIT518S	#8	.344	.164
AIT518T	#10	.344	.191
AIT518U	1/4"	.500	.248
AIT518V*	5/16"	.500	.372

ONE LUG NUT PLATE

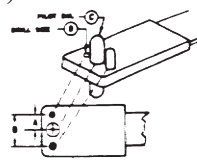
(Miniature)



Part No.	Bolt Size Ref.	A	C
AIT518-PA	#4	.203	.122
AIT518-PB	#6	.218	.139
AIT518-PC	#8	.234	.164
AIT518-PD	#10	.250	.191
AIT518-PE	#1/4"	.281	.248

TWO LUG NUT PLATE

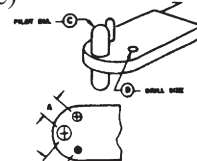
(Miniature)



Part No.	Bolt Size Ref.	A	C
AIT518-NA	#4	.203	.122
AIT518-NB	#6	.218	.139
AIT518-NC	#8	.234	.164
AIT518-ND	#10	.250	.191
AIT518-NE	#1/4"	.281	.248

CORNER NUT PLATE

(Miniature)



Part No.	Bolt Size Ref.	A	C
AIT518-SA	#4	.203	.122
AIT518-SB	#6	.218	.139
AIT518-SC	#8	.234	.164
AIT518-SD	#10	.250	.191

STRAP DUPLICATORS - LENGTH 6-1/4"

BUSHING TYPE



Part No.	Size
TPMM250-1	#40
TPMM250-2	#30
TPMM250-3	#21
TPMM250-5	#10
TPMM250-7	#F

INVERTED TYPE



Part No.	Size
TPMM255-1	#40
TPMM255-2	#30
TPMM255-3	#21
TPMM255-5	#10
TPMM255-7	#F

PUNCH TYPE



Part No.	Size
TPMM260-1	#40
TPMM260-2	#30
TPMM260-3	#21
TPMM260-5	#10

PRECISION DRILL GAUGE

TP565A

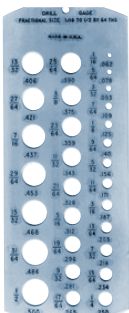
Fractional size gauge 1/16" to 1/2" in 64ths.

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

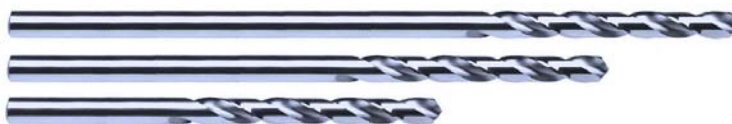
High Speed Steel, 1/4" Shank
Drills through metal and plastic
Automatically de-burrs drilled hole



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,
Cobalt Extension Drill Bits,
High Speed Steel Extension Drill Bits



COBALT				HIGH SPEED STEEL
Jobbers Length		Aircraft Extension Bits 6" Overall Length		Jobbers Length
SIZE	PART#	SIZE	PART#	R18A
#10	01-010	#10	05-209	#10
#16	01-016	#16	05-215	#16
#20	01-020	#20	05-219	#20
#21	01-021	#21	05-220	#21
#27	01-027	#27	05-226	#27
#30	01-030	#30	05-229	#30
#40	01-040	#40	05-239	#40
SIZE	PART#	SIZE	PART#	R10A
3/32	02-063	3/32	04-102	3/32
1/8	02-065	1/8	04-104	1/8
5/32	02-067	5/32	04-106	5/32
3/16	02-069	3/16	04-108	3/16
1/4	02-073	1/4	04-112	1/4

Drill Bit Manufacturer's Part Number may vary throughout the year.

INSERT BITS - PHILLIPS

440-#		446-#		TORQ-SET		1/4" Power Bit		
								
1/4" Hex Insert		1/4" Hex Insert, Limited Clearance		1/4" Hex Shank, Overall Length 1"				
Point Size	Part#	Point Size	Part#	Point Size	Part#	Part#	Length	Point Size
1	440-1X	1	446-1X	2	212-2	491X	1-15/16	1
				3	212-3	492X	1-15/16	2
2	440-2X	2	446-2X	4	212-4	493X	1-15/16	3
				6	212-6	491AX	2-1/2	1
3	440-3X	3	446-3X	8	212-8	492AX	2-1/2	2
				10	212-10	493AX	2-1/2	3

INSERT BITS - TRIWING

1/4" Hex Insert, Overall Length 1"		POWERBIT		1/4" Hex Shank, Overall Length 2 3/8"	
					
Point Size	Part#	Point Size	Part#	Point Size	Part#
#4	TWD-2	#4	TW-2	#4	TW-2-2 3/8
#6	TWD-3	#6	TW-3	#6	TW-3-2 3/8
#8	TWD-4	#8	TW-4	#8	TW-4-2 3/8
#10	TWD-5	#10	TW-5	#10	TW-5-2 3/8

CLECO FASTENERS



STANDARD				SIDE CLAMP			
Part #	Color Code	Diameter	Drill Size	Part #	Gap	Reach	Length
C-3/32	ZINC	3/32	#40	CSG 1/2 x 1/2	1/2	1/2	2-3/16
C-1/8	COPPER	1/8	#30	CSG 3/4 x 1/2	3/4	1/2	2-7/16
C-5/32	BLACK	5/32	#20	CSG 1/2 x 1	1/2	1	2-3/16
C-3/16	BRASS	3/16	#10	CSG 3/4 x 1	3/4	1	2-7/16

THREADED SHANK TAPER ROUTER BITS



Part Number	Size	Small End Diam.	Length
15-305	1	.0810	1-1/4"
15-306	2	.1100	1-1/4"
15-307	3	.1650	1-1/4"

A/C TAPER ROUTER

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



Part Number	Size	Shank Dia.	Nom. Dia. Small End	Flute End (Inches)	Overall Length
15-301	1	.0980	.0810	13/16"	2"
15-302	2	.1280	.1100	7/8"	2-1/4"
15-303	3	.1875	.1650	1-1/16"	2-1/2"
15-304	4	.2500	.2240	1-1/4"	2-3/4"

STEP DRILLS

Titanium Nitride coated



Part Number	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

COBALT STOVE BURNER DRILLS

NAS937, Jobber Length M 42
8% Cobalt, 135° Split Point



Part Number	Drill Size	Decimal Equivalent	Flute Length	Overall Length
13-SB10	#10	.1935	2-7/16"	3-5/8"
13-SB16	#16	.1770	2-3/16"	3-3/8"
13-SB21	#21	.1590	2-1/8"	3-1/4"
13-SB27	#27	.1440	1-7/8"	3"
13-SB30	#30	.1285	1-5/8"	2-3/4"
13-SB40	#40	.0980	1-3/8"	2-3/8"

AEROSPACE TAPS



Part Number	Description	Part Number	Description
23-408	6/32 Taper	23-413	8/32 Bottom
23-409	6/32 Plug	23-417	10/32 Taper
23-410	6/32 Bottom	23-418	10/32 Plug
23-411	8/32 Taper	23-419	10/32 Bottom
23-412	8/32 Plug		

HSS STOP COUNTERSINKS 82°

Three Flute, Integral Pilot
1/4-28 Threaded Shank



Part Number	Size	Decimal Equivalent	Part Number	Size	Decimal Equivalent
18-038	#40	.0980	18-045	3/16	.1875
18-042	#30	.1280	18-048	#13	.1850
18-021	#27	.1440	18-044	#10	.1935
18-043	#21	.1590	18-027	1/4	.2500

DRILL STOPS

Reduces drill breakage by controlling depth of drilled hole.



Part Number	Drill Size	Hole Diameter	Color
30-635	#40	.099	Zinc
30-636	#30	.130	Copper
30-633	#27	.146	Zinc
30-639	#21	.161	Black
30-641	#10	.195	Brass

TOGGLE CLAMPS

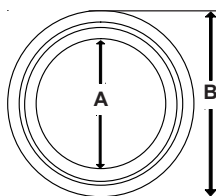
Squeeze Action,
1/4-20 Spindle Thread,
Neoprene Spindle



Part Number	Holding Capacity	Jaw Reach	Jaw Gap	Overall Length
04-99210	100 lbs.	2-5/16"	1-1/16"	6-7/8"
04-99211	200 lbs.	1-1/4"	1-1/16"	4-5/16"
04-99215	200 lbs.	1-1/4"	1-1/16"	4-5/16"

MS35769 (AN900)

Gasket - Copper, Annular



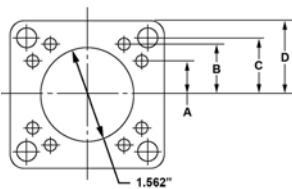
MS35769	AN900	A Dia	B Dia	Thickness	MS35769	AN900	A Dia	B Dia	Thickness
2	4	1/4	1/2	3/32"	20	15	15/16	1-3/16	3/32"
5	5	5/16	9/16	3/32"	21	16	1	1-1/4	3/32"
6	6	3/8	5/8	3/32"	24	17	1-1/16	1-5/16	3/32"
8	7	7/16	11/16	3/32"	26	18	1-1/8	1-3/8	3/32"
9	8	1/2	3/4	3/32"	29	19	1-3/16	1-7/16	3/32"
10	9	9/16	13/16	3/32"	31	20	1-1/4	1-1/2	3/32"
11	10	5/8	7/8	3/32"	35	22	1-3/8	1-5/8	3/32"
12	---	5/8	1	5/64"	39	24	1-1/2	1-3/4	3/32"
13	11	11/16	15/16	3/32"	42	26	1-5/8	1-7/8	3/32"
15	12	3/4	1	3/32"	46	27	1-11/16	1-15/16	3/32"
17	13	13/16	1-1/16	3/32"	48	28	1-3/4	2	3/32"
18	14	7/8	1-1/8	3/32"	51	29	1-13/16	2-1/16	3/32"

AS3491-01 (MS9134-01)

Gasket - Engine Accessory Drive



AS3491-01	
A	0.562"
B	0.844"
C	0.938"
D	1.219"

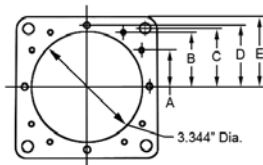


AS3492-01 (MS9135-01)

Gasket - Engine Accessory Drive



AS3492-01	
A	1.109"
B	1.656"
C	1.768"
D	1.875"
E	2.112"

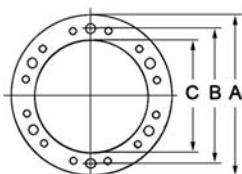


AS3493-01 (MS9136-01)

Gasket - Engine Accessory Drive



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



AN901

AN901-#A (Aluminum)

AN901-#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	—

MS9371

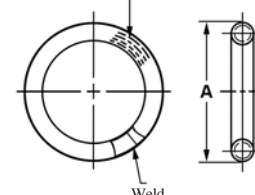
MS9372

Gasket, Corrosion & Heat Resistant Steel Tubing, Silver Plated



Part #	A	Tube Size
MS9371-07	.375	.034 - .037
MS9371-11	.500	.034 - .037
MS9371-16	.812	.034 - .037
Part #	A	Tube Size
MS9372-016	.531	.061 - .064
MS9372-017	.562	.061 - .064
MS9372-019	.625	.061 - .064
MS9372-021	.688	.061 - .064

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



ALUMINUM SNIPS

TP792 (12" O.A.L., 1 lb)

TP793 (14" O.A.L., 1.31 lbs.)

- Strong & Lightweight with inlaid steel blades
- Resharpenable blades that replace easily when necessary
- Baked enamel finish
- Cuts both straight and curves



AVIATION SNIPS COMBINATION

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

- Buy all three pieces and save
- This unique lightweight design allows cutting to be fast and easy

TP51 • Cuts left, red grips, .80 lb.

TP52 • Cuts right, green grips, .80 lb.

TP53 • Cuts straight, yellow grips, .80 lb.



FLUTING PLIERS

TP722

- .40 lb.
- Polished mechanical jaws
- Forged steel construction and hardened cushion grip handles
- Ideal for kit builders
- 9-1/2 length

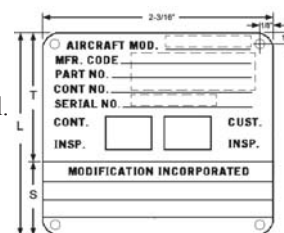


IDENTIFICATION PLATES

MS27253

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

Dash #	Total Length L	Total Spaces S	Top Length T
-1	1-5/8"	3	1-1/8"
-2	3"	11	1-1/8"
-3	1-3/4"	3	1-1/4"
-4	3"	10	1-1/4"



POP RIVET TOOL

PS15-CS

- Installs Pop Rivets up to 3/16" Dia.
- Durable and Heavy Duty



RIVNUT TOOL

CN/12

- Installs Aluminum Rivnuts Sizes 6-32, 8-32, 10-32, 10-24, & 1/4
- Able to change mandrels quickly



CHERRYMAX/CHERRYLOCK RIVETING TOOLS

CHERRY HAND RIVETER

G27 • Lightweight hand riveter

- Can install most aluminum Cherrymax blind rivets up to 1/8" diameter
- Includes pulling head
- Rugged plastic case

G29 • Lightweight, compact

- Installs Cherry nutplate rivets
- Equipped with 728A9-3 nose piece to install 3/32 rivets
- Can install 1/8 rivets with 728A9-104 nose piece also included



CHERRY 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

- Three-in-one tool:
Plier, Twister & Cutter
- Automatic Spring Return



SWAGING TOOL

TP64

- Swages 1/16, 3/32, 1/8 cable
- Wrench used to tighten bolts



NICOPRESS SLEEVE SWAGING TOOL

HS-5

- Swaging sizes 1/16, 3/32, 1/8, 5/32, 3/16



FELCO CABLE CUTTERS

C-7

- Cutter up to 3/16 diameter cable
- Cuts clean and leaves no frayed ends



DZUS TOOLING

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

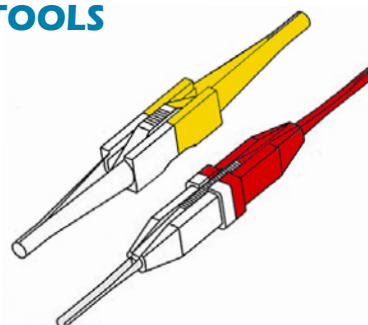
Part#	Stud
TP835A	A1#3
TP835B	A1#4
TP835C	F1#4
TP835D	A1#5
TP835E	F1#5



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



CLECO PLIERS

TP74 & TP74V

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



CAMLOC PLIERS

4P3

- Installs 2600, 2700, 4002 Series Camlocs



WRENCH TYPE RIVNUT HEADER

L845 Old # C845

- For Field Repair
- Mandrels available for sizes 4-40, 6-32, 8-32, 10-32
- Mandrel Part #
60-1000 (thread size)



RIVET CUTTER

TP96

- Cuts 3/32 to 1/4
- Hardened cutting edges
- Rubber Grips



HI-LOK INSTALLATION/REMOVAL TOOLS

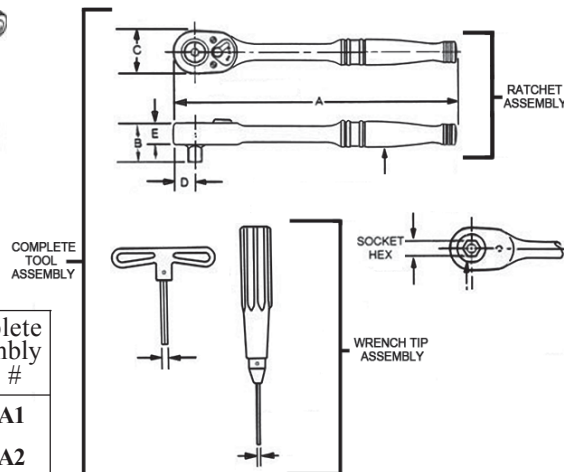
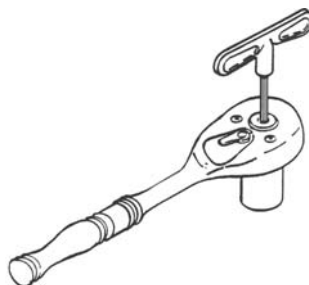
HI-LOK TOOL ASSEMBLY

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

ATHS - Socket Part #

ATRR250 - Ratchet 1/4" Sq. Drive

ATHK062 - Hex Key Part #

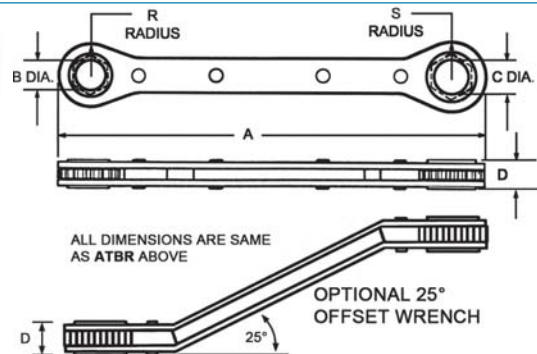


Socket Hex	Socket Part #	Ratchet Dimensions					Ratchet Part #	Hex Key Size	Hex Key Part #	Complete Assembly Part #
		A	B	C	D	E				
3/16"	ATHS187									ATHA1
7/32"	ATHS218	5"	1-1/4"	15/64"	7/16"	3/8"	ATRR250	1/16"	ATHK062	ATHA2
1/4"	ATHS250									ATHA3

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**.



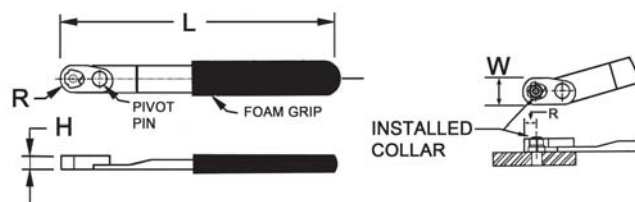
Part #		B	C	A	D	R Radius	S Radius
ATBR2125	4-1/4"	7/32"	1/4"		3/8"	19/64"	21/64"
ATBR2528		1/4"	9/32"				

COLLAR REMOVAL TOOL

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



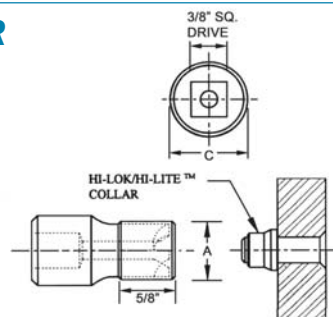
Pin Diameter	Part #	Nom. Pin Diameter	H	R	L	W
-5	REM100-56	5/32"	0.25	0.28	5.60	0.42
-6	REM100-56	3/16"	0.25	0.28	5.60	0.42
-8	REM100-8	1/4"	0.31	0.35	5.80	0.55



REMOVABLE SOCKET FOR COLLAR REMOVAL

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

Nom. Pin Diameter	Part #	A	C
-5	OMAR100-5	5/8"	0.25
-6	OMAR100-6	5/8"	0.25
-8	OMAR100-8	13/16"	0.31



HI LOK GAUGE

2-612



ASSORTED HARDWARE KITS

SOLID RIVET KIT #1 Quantity of 1 pound of each		SOLID RIVET KIT #2 Quantity of 1 pound of each		RIVNUT KIT Quantity of 50 each	
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		
				GROMMET KIT Quantity of 10 each	
				MS35489-1 THRU -22	
				MS35489-118, -134, -135	
SOLID RIVET KIT #3 COMBINATION OF KITS #1 & 2				CLAMP KIT 25 MS21919WDG2 THRU -16	
TINNERMAN KIT Quantity of 50 each				COTTER PIN KIT Quantity of 100 each	
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	A1787-8Z1D	MS24665-138		MS24665-289	
A1778-8Z1D	A1787-10Z1D	MS24665-140		MS24665-302	
A1779-10Z1D	A1788-8Z1D	MS24665-151		MS24665-360	
A1784-6Z1D	A1788-8Z1D	MS24665-153		MS24665-362	
	A1789-8Z1D	MS24665-155		MS24665-363	
		MS24665-22		MS24665-9	
		MS24665-281		MS24665-1012	
SHEET METAL SCREW KIT Quantity of 100 each				CAPLUG KIT Quantity of 50 each	
4R X 1/4	6R X 1/4	8R X 3/8	10R X 1/2	CD3	
4R X 3/8	6R X 3/8	8R X 1/2	10R X 5/8	CD4	
4R X 1/2	6R X 1/2	8R X 5/8	10R X 3/4	CD5	
4R X 5/8	6R X 5/8	8R X 3/4	10R X 1	CD6	
4R X 3/4	6R X 3/4	8R X 1		CD8	
KIT #1	TRUSS HEAD	ZINC		CD10	
KIT #2	TRUSS HEAD	STAINLESS		CD12	
KIT #3	FLAT HEAD	ZINC		PD20	
KIT #4	FLAT HEAD	STAINLESS		PD30	
KIT #5	OVAL HEAD	ZINC		PD40	
KIT #6	OVAL HEAD	STAINLESS		PD50	
KIT #7	PAN HEAD	STAINLESS		PD60	
				PD80	
				PD100	
				PD120	
GASKET KIT				RING TERMINAL KIT Quantity of 25 each	
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				SPACER KIT Quantity of 25 each	
				NAS43DD3-8, 12, 16, 20, 24, 28, 32, 34, 36, 40, 48, 64	

NON STRUCTURAL SCREW KIT #1

100 EA. AN526-632R4 THRU -632R12
100 EA. AN526-832R4 THRU -832R12
100 EA. AN526-1032R6 THRU -1032R16
100 EA. MS24693S2 THRU S8
100 EA. MS24693S24 THRU S30
100 EA. MS24693S46 THRU S54
100 EA. MS24693S270 THRU S276
100 EA. MS35206-213 THRU -219
100 EA. MS35206-226 THRU -232
100 EA. MS35206-241 THRU -249
100 EA. MS35207-261 THRU -267

NON STRUCTURAL SCREW KIT #2

100 EA. MS24693S24 THRU S30
100 EA. MS24693S48 THRU S52
100 EA. MS24693S270 THRU S274
100 EA. MS24693C24 THRU C30
100 EA. MS24693C48 THRU C52
100 EA. MS24693C270 THRU C274

NON-STRUCTURAL SCREW KIT #3

100 EA. AN526-632R6 THRU AN526-632R12
100 EA. AN526-832R6 THRU AN526-832R12
100 EA. AN526-1032R6 THRU AN526-1032R12
100 EA. AN526C632R6 THRU AN526C632R12
100 EA. AN526C832R6 THRU AN526C832R12
100 EA. AN526C1032R6 THRU AN526C1032R12
**** This kit no longer contains: AN526-632R9**

STAINLESS SCREW KIT #1

100 EA. MS24693C4 THRU C8
100 EA. MS24693C24 THRU C30
100 EA. MS24693C46 THRU C52
100 EA. MS24693C270 THRU C276
100 EA. MS24694C3 THRU C7
100 EA. MS24694C48 THRU C52

STAINLESS SCREW KIT #2

100 EA. AN526C632R4 THRU C632R12
100 EA. AN526C832R6 THRU C832R16
100 EA. AN526C1032R6 THRU C1032R16
100 EA. MS51957-30 AND MS51957-45
100 EA. MS51958-64 AND MS51958-65

STAINLESS SCREW KIT #3

100 EA. AN526C632R6 THRU C632R12
100 EA. AN526C832R6 THRU C832R12
100 EA. AN526C1032R6 THRU C1032R12
100 EA. MS24693C24 AND MS24693C30
100 EA. MS24693C46 THRU C54
100 EA. MS24693C270 THRU C276
100 EA. MS24694C5 THRU C9
100 EA. MS24694C48 THRU C54

BLACK BRASS SCREW KIT

100 EA. MS35214-14, 16, 20
100 EA. MS35214-25 THRU -33
100 EA. MS35214-42 THRU -47
100 EA. MS24693BB2, 6, 26, 28
100 EA. MS24693BB30 THRU BB36
100 EA. MS24693BB50, 52, 54, 58

INSTRUMENT SCREW/ NUT KIT

100 EA. MS24693BB28 THRU BB36
100 EA. MS24693BB50 THRU BB54
100 EA. MS35214-14 THRU -16
100 EA. MS35214-25 THRU -33
100 EA. MS35214-42 THRU -46
25 EA. MS33737-9C THRU -16C

CLEVIS PIN KIT

5 EA. MS20392-1C7 THRU -1C35
5 EA. MS20392-2C7 THRU -2C45
5 EA. MS20392-3C11 THRU -3C41
100 EA. MS24665-132
100 EA. MS24665-283

CHERRYMAX RIVET KIT #1

100 EA. CR3212-4-02
100 EA. CR3212-4-03
100 EA. CR3212-4-04
100 EA. CR3213-4-02
100 EA. CR3213-4-03
100 EA. CR3213-4-04
100 EA. CR3242-4-02
100 EA. CR3242-4-03
100 EA. CR3242-4-04
100 EA. CR3243-4-02
100 EA. CR3243-4-03
100 EA. CR3243-4-04

CHERRYMAX RIVET KIT #2

100 EA. CR3212-5-02
100 EA. CR3212-5-03
100 EA. CR3212-5-04
100 EA. CR3213-5-02
100 EA. CR3213-5-03
100 EA. CR3213-5-04
100 EA. CR3242-5-02
100 EA. CR3242-5-03
100 EA. CR3242-5-04
100 EA. CR3243-5-02
100 EA. CR3243-5-03
100 EA. CR3243-5-04

CHERRY NUTPLATE RIVET KIT

100 EA. CCR264CS3-02
100 EA. CCR264CS3-03
100 EA. CCR264CS3-04
100 EA. CCR264SS3-02
100 EA. CCR264SS3-03
100 EA. CCR264SS3-04

"AN" BOLT KIT #1 (UNDRILLED)

25	EA.	AN3-3A	THRU	AN3-12A
15	EA.	AN3-13A	THRU	AN3-22A
10	EA.	AN3-23A	THRU	AN3-30A
25	EA.	AN4-3A	THRU	AN4-12A
10	EA.	AN4-13A	THRU	AN4-26A
5	EA.	AN4-27A	THRU	AN4-35A

"AN" BOLT KIT #2 (DRILLED)

25	EA.	AN3-3	THRU	AN3-12
10	EA.	AN3-13	THRU	AN3-20
10	EA.	AN3-21	THRU	AN3-30
25	EA.	AN4-4	THRU	AN4-12
10	EA.	AN4-13	THRU	AN4-20

"AN" BOLT KIT #3 (UNDRILLED)

10	EA.	AN5-4A	THRU	AN5-20A
5	EA.	AN5-21A	THRU	AN5-35A
10	EA.	AN6-5A	THRU	AN6-20A
5	EA.	AN6-21A	THRU	AN6-35A

"AN" BOLT KIT #4 (DRILLED)

10	EA.	AN5-4	THRU	AN5-12
5	EA.	AN5-13	THRU	AN5-30
10	EA.	AN6-5	THRU	AN6-12
5	EA.	AN6-13	THRU	AN6-30
50	EA.	AN310-5		
50	EA.	AN310-6		
100	EA.	MS24665-132		
100	EA.	MS24665-283		

"AN" ASSORTED BOLT KIT

25	EA.	AN3-3A	THRU	AN3-12A
15	EA.	AN3-13A	THRU	AN3-24A
25	EA.	AN3-3	THRU	AN3-12
15	EA.	AN3-13	THRU	AN3-20
25	EA.	AN4-4A	THRU	AN4-12A
10	EA.	AN4-13A	THRU	AN4-20A
10	EA.	AN4-4	THRU	AN4-20
10	EA.	AN5-5A	THRU	AN5-20A
10	EA.	AN5-5	THRU	AN5-20
10	EA.	AN6-5A	THRU	AN6-20A
10	EA.	AN6-5	THRU	AN6-20

WASHER KIT #1

100	EA.	AN960-4	THRU	AN960-616
100	EA.	AN960-4L	THRU	AN960-616L
100	EA.	AN960C4	THRU	AN960C616
100	EA.	AN960C4L	THRU	AN960C616L
100	EA.	AN960JD4	THRU	AN960JD616
100	EA.	AN960JD4L	THRU	AN960JD616L
100	EA.	AN970-3	AND	AN970-4
50	EA.	AN970-5	AND	AN970-6
100	EA.	MS35333-36	THRU	MS35333-42
100	EA.	MS35335-29	THRU	MS35335-35
100	EA.	MS35338-40	THRU	MS35338-46

ASST. NUT/NUTPLATE KIT #1

100	EA.	MS21044N06	THRU	MS21044N4
100	EA.	MS21045-06	THRU	MS21045-4
25	EA.	AN310-3	AND	AN310-4
25	EA.	AN320-3	AND	AN320-4
25	EA.	MS17825-3	AND	MS17825-4
25	EA.	MS17826-3	AND	MS17826-4
100	EA.	AN315-3R	AND	AN315-4R
100	EA.	MS35649-242, -262, -282		
100	EA.	MS35650-302	AND	-3252
100	EA.	MS21042L06	THRU	MS21042L4
25	EA.	NAS679A06W	THRU	NAS679A4W
25	EA.	MS21047L06, L08, L3		
25	EA.	MS21059L06, L08, L3		
25	EA.	MS21061L08	AND	MS21061L3
25	EA.	MS21071L06, L08, L3		
25	EA.	MS21075L06N, L08N, L3N		

ASST. NUT/NUTPLATE KIT #2

100	EA.	MS21044N06	THRU	MS21044N4
100	EA.	MS21045-06	THRU	MS21045-4
100	EA.	MS21083N06	THRU	MS21083N4
25	EA.	AN310-3	AND	AN310-4
25	EA.	AN320-3	AND	AN320-4
100	EA.	AN315-3R	AND	AN315-4R
25	EA.	NAS679A06W	THRU	NAS679A4W
25	EA.	MS21047L06, L08, L3		
25	EA.	MS21059L06, L08, L3		
25	EA.	MS21075L06N, L08N, L3N		

WASHER KIT #2

100	EA.	AN960-4	THRU	AN960-616
100	EA.	AN960-4L	THRU	AN960-616L
100	EA.	AN970-3	AND	AN970-4
100	EA.	NAS1515H06L, 08L, 3L		
100	EA.	SKIN WASHER #6, #8, #10		
100	EA.	SKIN WASHER S/S #6, #8, #10		
100	EA.	601-4, -6, -8, -10		
100	EA.	603-6, -8, -10		

CASTLE/PLAIN NUT KIT (NON-SELF LOCKING)

25	EA.	AN310-3	THRU	AN310-6
25	EA.	AN320-3	THRU	AN320-6
100	EA.	AN315-3R	THRU	AN315-6R
100	EA.	AN316-4R	THRU	AN316-6R
100	EA.	MS35649-242, -262, -282		
100	EA.	MS35650-302, -3252, -3312		

SELF LOCKING NUT KIT

100	EA.	MS21044N06	THRU	MS21044N6
100	EA.	MS21045-3	AND	MS21045-4
50	EA.	MS21045-5	AND	MS21045-6
100	EA.	MS21083N06	THRU	MS21083N4
50	EA.	MS21083N5	AND	MS21083N6
100	EA.	MS21042L06	THRU	MS21042L4
50	EA.	MS21042-06	THRU	MS21042-4

NUTPLATE KIT

25	EA.	MS21047L06, L08, L3		
25	EA.	MS21049L08, L3		
25	EA.	MS21051L06, L08, L3		
25	EA.	MS21055L06, L08, L3		
25	EA.	MS21059L06, L08, L3		
25	EA.	MS21061L06, L08, L3		
25	EA.	MS21071L06, L08, L3		
25	EA.	MS21073L06, L08, L3		
25	EA.	MS21075L06N, L08N, L3N		

THOMAS & BETTS TIE WRAP KIT

100 EA.	TY25M	100 EA.	TY23M
100 EA.	TY28M	100 EA.	TY24M
100 EA.	TY27M	100 EA.	TY253M

MS24693 KIT

100 EA.	MS24693S2	THRU	MS24693S8
100 EA.	MS24693S24	THRU	MS24693S30
100 EA.	MS24693S46	THRU	MS24693S52
100 EA.	MS24693S270	THRU	MS24693S276

WASHER/COTTER PIN KIT

100 EA.	AN960-6	100 EA.	AN960-6L	100 EA.	MS24665-132
100 EA.	AN960-8	100 EA.	AN960-8L	100 EA.	MS24665-134
100 EA.	AN960-10	100 EA.	AN960-10L	100 EA.	MS24665-136
100 EA.	AN960-416	100 EA.	AN960-416L	100 EA.	MS24665-283
100 EA.	AN960-516	100 EA.	AN960-516L	100 EA.	MS24665-285
100 EA.	AN960-616	100 EA.	AN960-616L	100 EA.	MS24665-360

WASHER/COTTER PIN KIT STAINLESS STEEL

100 EA.	AN960C6	100 EA.	AN960C6L	100 EA.	MS24665-151
100 EA.	AN960C8	100 EA.	AN960C8L	100 EA.	MS24665-153
100 EA.	AN960C10	100 EA.	AN960C10L	100 EA.	MS24665-155
100 EA.	AN960C416	100 EA.	AN960C416L	100 EA.	MS24665-300
100 EA.	AN960C516	100 EA.	AN960C516L	100 EA.	MS24665-302
100 EA.	AN960C616	100 EA.	AN960C616L	100 EA.	MS24665-304

MS21044 NUT KIT

100 EA.	MS21044N04
100 EA.	MS21044N06
100 EA.	MS21044N08
100 EA.	MS21044N3
100 EA.	MS21044N4
50 EA.	MS21044N5
25 EA.	MS21044N6

MS21045 NUT KIT

100 EA.	MS21045-04
100 EA.	MS21045-06
100 EA.	MS21045-08
100 EA.	MS21045-3
50 EA.	MS21045-4
25 EA.	MS21045-5
25 EA.	MS21045-6

MS21083 NUT KIT

100 EA.	MS21083N04
100 EA.	MS21083N06
100 EA.	MS21083N08
100 EA.	MS21083N3
100 EA.	MS21083N4
50 EA.	MS21083N5
25 EA.	MS21083N6

MS21042 NUT KIT

100 EA.	MS21042L04
100 EA.	MS21042L06
100 EA.	MS21042L08
100 EA.	MS21042L3
100 EA.	MS21042L4
100 EA.	MS21042-04
100 EA.	MS21042-06
100 EA.	MS21042-08
100 EA.	MS21042-3
100 EA.	MS21042-4

MS24694 KIT

100 EA.	MS24694S2	THRU	MS24694S13
100 EA.	MS24694S47	THRU	MS24694S58

AN525 KIT

100 EA.	AN525-832R6	THRU	AN525-832R12
100 EA.	AN525-10R6	THRU	AN525-10R16

AN526 S/S KIT

100 EA.	AN526C632R6	THRU	AN526C632R12
100 EA.	AN526C832R6	THRU	AN526C832R12
100 EA.	AN526C1032R6	THRU	AN526C1032R12

MS27039 S/S KIT

100 EA.	MS27039C0807	THRU	C0809
100 EA.	MS27039C0812		
100 EA.	MS27039C1-07	THRU	MS27039C1-11

Structural Screw Kits are on Page 23

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.	MS24693C26	THRU	MS24693C30	25 EA.	AN3C3A	THRU	AN3C10A
100 EA.	MS24693C48	THRU	MS24693C52	25 EA.	AN4C4A	THRU	AN4C10A
100 EA.	MS24693C272	THRU	MS24693C274	25 EA.	MS21059L06		
100 EA.	AN526C632R6	THRU	AN526C632R12	25 EA.	MS21059L08		
100 EA.	AN526C832R6	THRU	AN526C832R12	25 EA.	MS21059L3		
100 EA.	AN526C1032R6	THRU	AN526C1032R12	25 EA.	MS21060L06		
100 EA.	MS27039C0808	THRU	MS27039C0810	25 EA.	MS21060L08		
100 EA.	MS27039C1-08	THRU	MS27039C1-10	25 EA.	MS21060L3		
100 EA.	MS24694C3	THRU	MS24694C7	25 EA.	MS21075L06N		
100 EA.	MS24694C50	THRU	MS24694C54	25 EA.	MS21075L08N		
100 EA.	MS24665-151			25 EA.	MS21075L3N		
100 EA.	MS24665-153			25 EA.	MS21076L08N		
100 EA.	MS24665-155			25 EA.	MS21076L3N		
100 EA.	MS24665-300			25 EA.	AN310C3		
100 EA.	MS24665-302			25 EA.	AN310C4		
100 EA.	MS24665-304			25 EA.	AN320C3		
100 EA.	AN960C6			25 EA.	AN320C4		
100 EA.	AN960C8			25 EA.	MS21044C06		
100 EA.	AN960C10			25 EA.	MS21044C08		
100 EA.	AN960C416			25 EA.	MS21044C3		
100 EA.	AN960C6L			25 EA.	MS21045C06		
100 EA.	AN960C8L			25 EA.	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.	MS24693C26	THRU	MS24693C30	100 EA.	AN960C6L		
100 EA.	MS24693C48	THRU	MS24693C52	100 EA.	AN960C8L		
100 EA.	MS24693C272	THRU	MS24693C274	100 EA.	AN960C10L		
100 EA.	AN526C632R6	THRU	AN526C632R12	100 EA.	AN960C416L		
100 EA.	AN526C832R6	THRU	AN526C832R12	100 EA.	EC1075-012-06SS		
100 EA.	AN526C1032R6	THRU	AN526C1032R12	100 EA.	EC1080-017-08SS		
100 EA.	MS24694C3	THRU	MS24694C7	100 EA.	EC1085-020-10SS		
100 EA.	MS24694C50	THRU	MS24694C54	25 EA.	AN3C3A	THRU	AN3C10A
100 EA.	MS24665-151			25 EA.	AN4C4A	THRU	AN4C10A
100 EA.	MS24665-153			25 EA.	AN310C3		
100 EA.	MS24665-155			25 EA.	AN310C4		
100 EA.	MS24665-300			25 EA.	AN320C3		
100 EA.	MS24665-302			25 EA.	AN320C4		
100 EA.	MS24665-304			25 EA.	MS21044C06		
100 EA.	AN960C6			25 EA.	MS21044C08		
100 EA.	AN960C8			25 EA.	MS21044C3		
100 EA.	AN960C10			25 EA.	MS21045C08		
100 EA.	AN960C416			25 EA.	MS21045C3		

FBO STARTER KIT #1 (173 Pieces)

** This kit no longer contains: AN526-632R9

100 EA.	MS24693S26	THRU	MS24693S30
100 EA.	MS24693S48	THRU	MS24693S52
100 EA.	MS24693S272	THRU	MS24693S274
100 EA.	AN526-632R6	THRU	AN526-632R12
100 EA.	AN526-832R6	THRU	AN526-832R12
100 EA.	AN526-1032R6	THRU	AN526-1032R12
100 EA.	AN525-832R6	THRU	AN525-832R12
100 EA.	AN525-10R6	THRU	AN525-10R12
100 EA.	MS24694S4	THRU	MS24694S9
100 EA.	MS24694S50	THRU	MS24694S54
100 EA.	MS24665-132		
100 EA.	MS24665-134		
100 EA.	MS24665-136		
100 EA.	MS24665-151		
100 EA.	MS24665-153		
100 EA.	MS24665-155		
100 EA.	MS24665-283		
100 EA.	MS24665-285		
100 EA.	MS24665-287		
100 EA.	MS24665-300		
100 EA.	MS21044N06		
100 EA.	MS21044N08		
100 EA.	MS21044N3		
100 EA.	MS21044N4		
100 EA.	MS21045-06		
100 EA.	MS21045-08		
100 EA.	MS21045-3		
100 EA.	AN960-6		
100 EA.	AN960-8		
100 EA.	AN960-10		
100 EA.	AN960-416		
100 EA.	AN960-6L		
100 EA.	AN960-8L		
100 EA.	AN960-10L		
100 EA.	AN960-416L		
100 EA.	MS35333-37	THRU	MS35333-40
100 EA.	MS35335-31	THRU	MS35335-33
100 EA.	MS35338-41	THRU	MS35338-44

25 EA.	AN3-3A	THRU	AN3-12A
25 EA.	AN4-4A	THRU	AN4-12A
25 EA.	MS21047L06		
25 EA.	MS21047L08		
25 EA.	MS21047L3		
25 EA.	MS21059L06		
25 EA.	MS21059L08		
25 EA.	MS21059L3		
25 EA.	MS21075L06N		
25 EA.	MS21075L08N		
25 EA.	MS21075L3N		
25 EA.	AN310-3		
25 EA.	AN310-4		
25 EA.	AN320-3		
25 EA.	AN320-4		
25 EA.	A6K75		
25 EA.	A8K75		
25 EA.	A10K80		
25 EA.	A6-75		
25 EA.	A8-75		
25 EA.	A10-80		
10 EA.	AN3-3	THRU	AN3-12
10 EA.	AN4-4	THRU	AN4-12
10 EA.	MS35489-10	THRU	MS35489-12
10 EA.	MS35489-134		
10 EA.	MS35489-14		
10 EA.	MS21919WDG2	THRU	MS21919WDG12
10 EA.	MS35769-11		
10 EA.	MS35769-21		
10 EA.	MS35769-31		
10 EA.	MS35769-48		
10 EA.	MS28775-010	THRU	MS28775-013
10 EA.	MS28775-111	THRU	MS28775-116
10 EA.	MS29513-010		
10 EA.	MS29513-111		
10 EA.	MS29513-138		

FBO STARTER KIT #2 (91 Pieces)

** This kit no longer contains: AN526-632R9

100 EA.	MS24693S26	THRU	MS24693S30
100 EA.	MS24693S48	THRU	MS24693S52
100 EA.	MS24693S272	THRU	MS24693S274
100 EA.	AN526-632R6	THRU	AN526-632R12
100 EA.	AN526-832R6	THRU	AN526-832R12
100 EA.	AN526-1032R6	THRU	AN526-1032R12
100 EA.	AN525-832R6	THRU	AN525-832R12
100 EA.	AN525-10R6	THRU	AN525-10R12
100 EA.	MS24694S4	THRU	MS24694S9
100 EA.	MS24694S50	THRU	MS24694S54
100 EA.	MS24665-132		
100 EA.	MS24665-134		
100 EA.	MS24665-136		
100 EA.	MS24665-151		
100 EA.	MS24665-153		
100 EA.	MS24665-155		
100 EA.	MS24665-283		
100 EA.	MS24665-285		
100 EA.	MS24665-287		

100 EA.	MS24665-300		
100 EA.	MS21044N06		
100 EA.	MS21044N08		
100 EA.	MS21044N3		
100 EA.	MS21044N4		
100 EA.	MS21045-06		
100 EA.	MS21045-08		
100 EA.	MS21045-3		
100 EA.	AN960-6		
100 EA.	AN960-8		
100 EA.	AN960-10		
100 EA.	AN960-416		
100 EA.	AN960-6L		
100 EA.	AN960-8L		
100 EA.	AN960-10L		
100 EA.	AN960-416L		
100 EA.	MS35333-37	THRU	MS35333-40
100 EA.	MS35335-31	THRU	MS35335-33
100 EA.	MS35338-41	THRU	MS35338-44

FBO STARTER BIN KIT (144 Pieces)

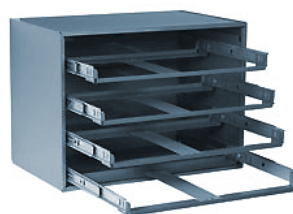
100	MS24693S26	100	AN525-10R10	100	AN310-4	50	AN3-7A
100	MS24693S27	100	AN525-10R11	100	AN320-3	25	AN3-10A
100	MS24693S28	100	AN525-10R12	100	AN320-4	25	AN3-11A
100	MS24693S29	100	MS24694S4	100	AN960-6	25	AN3-12A
100	MS24693S30	100	MS24694S5	100	AN960-8	25	AN4-4A
100	MS24693S48	100	MS24694S6	100	AN960-10	25	AN4-5A
100	MS24693S49	100	MS24694S7	100	AN960-416	25	AN4-6A
100	MS24693S50	100	MS24694S8	100	AN960-6L	25	AN4-7A
100	MS24693S51	100	MS24694S9	100	AN960-8L	25	AN4-10A
100	MS24693S52	100	MS24694S50	100	AN960-10L	25	AN4-11A
100	MS24693S272	100	MS24694S51	100	AN960-416L	25	AN4-12A
100	MS24693S273	100	MS24694S52	100	MS35333-37	25	AN3-3
100	MS24693S274	100	MS24694S53	100	MS35333-38	25	AN3-4
100	AN526-632R6	100	MS24694S54	100	MS35333-39	25	AN3-5
100	AN526-632R8	100	MS24665-132	100	MS35333-40	25	AN3-6
100	AN526-632R10	100	MS24665-134	100	MS35335-31	25	AN3-7
100	AN526-632R12	100	MS24665-136	100	MS35335-32	25	AN3-10
100	AN526-832R6	100	MS24665-151	100	MS35335-33	25	AN3-11
100	AN526-832R8	100	MS24665-153	100	MS35335-34	25	AN3-12
100	AN526-832R10	100	MS24665-155	100	MS35338-41	25	AN4-4
100	AN526-832R12	100	MS24665-283	100	MS35338-42	25	AN4-5
100	AN526-1032R6	100	MS24665-285	100	MS35338-43	25	AN4-6
100	AN526-1032R8	100	MS24665-300	100	MS35338-44	25	AN4-7
100	AN526-1032R10	100	MS21044N06	25	MS21047L06	25	AN4-10
100	AN526-1032R12	100	MS21044N08	25	MS21047L08	25	AN4-11
100	AN525-832R6	100	MS21044N3	25	MS21047L3	25	AN4-12
100	AN525-832R7	100	MS21044N4	50	MS21059L06	50	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	MS24693S26	100	AN526-1032R12	100	MS24694S53	100	AN960-8
100	MS24693S27	100	AN525-832R6	100	MS24694S54	100	AN960-10
100	MS24693S28	100	AN525-832R7	100	MS24665-132	100	AN960-416
100	MS24693S29	100	AN525-832R8	100	MS24665-134	100	AN960-6L
100	MS24693S30	100	AN525-832R9	100	MS24665-136	100	AN960-8L
100	MS24693S48	100	AN525-832R10	100	MS24665-151	100	AN960-10L
100	MS24693S49	100	AN525-832R11	100	MS24665-153	100	AN960-416L
100	MS24693S50	100	AN525-832R12	100	MS24665-155	100	MS35333-37
100	MS24693S51	100	AN525-10R6	100	MS24665-283	100	MS35333-38
100	MS24693S52	100	AN525-10R7	100	MS24665-285	100	MS35333-39
100	MS24693S272	100	AN525-10R8	100	MS24665-300	100	MS35333-40
100	MS24693S273	100	AN525-10R9	100	MS21044N06	100	MS35338-41
100	MS24693S274	100	AN525-10R10	100	MS21044N08	100	MS35338-42
100	AN526-632R6	100	AN525-10R11	100	MS21044N3	100	MS35338-43
100	AN526-632R8	100	AN525-10R12	100	MS21044N4	100	MS35338-44
100	AN526-632R10	100	MS24694S4	100	MS21045-06	25	MS21047L06
100	AN526-632R12	100	MS24694S5	100	MS21045-08	25	MS21047L08
100	AN526-832R6	100	MS24694S6	100	MS21045-3	25	MS21047L3
100	AN526-832R8	100	MS24694S7	100	MS21045-4	25	MS21059L06
100	AN526-832R10	100	MS24694S8	100	MS21083N06	25	MS21059L08
100	AN526-832R12	100	MS24694S9	100	MS21083N08	25	MS21059L3
100	AN526-1032R6	100	MS24694S50	100	MS21083N3	25	MS21075L06N
100	AN526-1032R8	100	MS24694S51	100	MS21083N4	25	MS21075L08N
100	AN526-1032R10	100	MS24694S52	100	AN960-6	25	MS21075L3N

HARDWARE BIN KITS

Compartment bins and Hardware Bin Kits are sold separately.



COMPARTMENT BIN

6 BIN CASE

4 BIN CASE

TABLE BASE

SPECIFICATIONS	COMPARTMENT BIN	6 BIN CASE	4 BIN CASE	TABLE BASE
Width, Inches	13 3/8	15 1/4	15 1/4	15 1/2
Height, Inches	2	16 3/8	11 1/4	15 1/8
Depth, Inches	9 1/4	11 3/4	11 3/4	12 1/8
Material	Prime Cold Rolled Steel	Prime Cold Rolled Steel	Prime Cold Rolled Steel	Prime Cold Rolled Steel
Color	Gray Baked Enamel	Gray Baked Enamel	Gray Baked Enamel	Gray Baked Enamel
Compartments	24	Holds 6 Bins	Holds 4 Bins	N/A

E.C.A.S. compartment bins and bin cases are designed to hold small scoop compartment boxes. They are manufactured of prime cold rolled steel and are finished in rust and acid resistant baked enamel. All parts, including cradles which support scoop boxes, and coated slides and tracks, are tooled for quality and uniformity. A center panel on each cradle supports boxes and special stops prevent units from being accidentally pulled from the rack. Racks are reinforced for strength and support loaded boxes in the open position without tilting.

SHEET METAL, S/S SCREW BIN KIT

100	4RX1/2THA S/S	100	4RX1/2FHA S/S
100	4RX5/8THA S/S	100	4RX5/8FHA S/S
100	4RX3/4THA S/S	100	4RX3/4FHA S/S
100	6RX1/2THA S/S	100	6RX1/2FHA S/S
100	6RX5/8THA S/S	100	6RX5/8FHA S/S
100	6RX3/4THA S/S	100	6RX3/4FHA S/S
100	8RX1/2THA S/S	100	8RX1/2FHA S/S
100	8RX5/8THA S/S	100	8RX5/8FHA S/S
100	8RX3/4THA S/S	100	8RX3/4FHA S/S
100	10RX1/2THA S/S	100	10RX1/2FHA S/S
100	10RX5/8THA S/S	100	10RX5/8FHA S/S
100	10RX3/4THA S/S	100	10RX3/4FHA S/S

SHEET METAL STEEL BIN KIT

100	4RX1/2THA	100	4RX1/2FHA
100	4RX5/8THA	100	4RX5/8FHA
100	4RX3/4THA	100	4RX3/4FHA
100	6RX1/2THA	100	6RX1/2FHA
100	6RX5/8THA	100	6RX5/8FHA
100	6RX3/4THA	100	6RX3/4FHA
100	8RX1/2THA	100	8RX1/2FHA
100	8RX5/8THA	100	8RX5/8FHA
100	8RX3/4THA	100	8RX3/4FHA
100	10RX1/2THA	100	10RX1/2FHA
100	10RX5/8THA	100	10RX5/8FHA
100	10RX3/4THA	100	10RX3/4FHA

UNDRILLED BOLT BIN KIT #1

25	AN3-3A	25	AN4-3A
25	AN3-4A	25	AN4-4A
25	AN3-5A	25	AN4-4A
25	AN3-6A	25	AN4-6A
25	AN3-7A	25	AN4-7A
25	AN3-10A	25	AN4-10A
20	AN3-11A	20	AN4-11A
20	AN3-12A	20	AN4-12A
20	AN3-13A	20	AN4-13A
20	AN3-14A	20	AN4-14A
20	AN3-15A	20	AN4-15A
20	AN3-16A	20	AN4-16A

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	AN4-4
25	AN3-6	25	AN4-6
25	AN3-7	25	AN4-7
25	AN3-10	25	AN4-10
20	AN3-11	20	AN4-11
20	AN3-12	20	AN4-12
20	AN3-13	20	AN4-13
20	AN3-14	20	AN4-14
20	AN3-15	20	AN4-15
20	AN3-16	20	AN4-16

DRILLED BOLT BIN KIT #2

100	AN3-3	25	AN4-10
100	AN3-4	25	AN4-11
100	AN3-5	25	AN4-12
50	AN3-6	25	AN5-6
50	AN3-7	25	AN5-7
50	AN3-10	25	AN5-10
50	AN3-11	20	AN5-11
50	AN3-12	20	AN5-12
50	AN4-4	100	AN310-3
50	AN4-5	100	AN310-4
50	AN4-6	50	AN310-5
50	AN4-7	500	MS24665-132

WASHER BIN KIT #1

100	AN960-6	100	MS35333-37
100	AN960-8	100	MS35333-38
100	AN960-10	100	MS35333-39
100	AN960-416	100	MS35333-40
100	AN960-516	100	MS35338-41
100	AN960-616	100	MS35338-42
100	AN960-6L	100	MS35338-43
100	AN960-8L	100	MS35338-44
100	AN960-10L	100	AN970-3
100	AN960-416L	50	AN970-4
100	AN960-516L	25	AN970-5
100	AN960-616L	25	AN970-6

WASHER BIN KIT #2

100	AN960C6	100	MS35333-37
100	AN960C8	100	MS35333-38
100	AN960C10	100	MS35333-39
100	AN960C416	100	MS35333-40
100	AN960C516	100	MS35338-41
100	AN960C616	100	MS35338-42
100	AN960C6L	100	MS35338-43
100	AN960C8L	100	MS35338-44
100	AN960C10L	100	AN970-3
100	AN960C416L	50	AN970-4
100	AN960C516L	25	AN970-5
100	AN960C616L	25	AN970-6

COTTER PIN BIN KIT

100	MS24665-1012	100	MS24665-212
100	MS24665-1013	100	MS24665-22
100	MS24665-132	100	MS24665-229
100	MS24665-134	100	MS34665-231
100	MS24665-136	100	MS24665-283
100	MS24665-138	100	MS24665-285
100	MS24665-140	100	MS24665-287
100	MS24665-151	100	MS24665-289
100	MS24665-153	100	MS24665-300
100	MS24665-155	100	MS24665-302
100	MS24665-157	100	MS24665-360
100	MS24665-210	100	MS24665-362

WASHER/COTTER PIN S/S BIN KIT

100	AN960C6	100	MS24665-302
100	AN960C8	100	MS24665-304
100	AN960C10	100	EC1075-012-06SS
100	AN960C416	100	EC1080-017-08SS
100	AN960C6L	100	EC1085-020-10SS
100	AN960C8L	100	MS35333-71
100	AN960C10L	100	MS35333-72
100	AN960C416L	100	MS35333-73
100	MS24665-151	100	MS35333-74
100	MS24665-153	100	MS35338-136
100	MS24665-155	100	MS35338-137
100	MS24665-300	100	MS35338-138

MS24693 BIN KIT

100	MS24693S2	100	MS24693S46
100	MS24693S3	100	MS24693S47
100	MS24693S4	100	MS24693S48
100	MS24693S6	100	MS24693S49
100	MS24693S7	100	MS24693S50
100	MS24693S24	100	MS24693S51
100	MS24693S25	100	MS24693S52
100	MS24693S26	100	MS24693S270
100	MS24693S27	100	MS24693S271
100	MS24693S28	100	MS24693S272
100	MS24693S29	100	MS24693S273
100	MS24693S30	100	MS24693274

MS24693 S/S BIN KIT

100	MS24693C2	100	MS24693C46
100	MS24693C3	100	MS24693C47
100	MS24693C4	100	MS24693C48
100	MS24693C6	100	MS24693C49
100	MS24693C7	100	MS24693C50
100	MS24693C24	100	MS24693C51
100	MS24693C25	100	MS24693C52
100	MS24693C26	100	MS24693C270
100	MS24693C27	100	MS24693C271
100	MS24693C28	100	MS24693C272
100	MS24693C29	100	MS24693C273
100	MS24693C30	100	MS24693C274

MS24694 BIN KIT

100	MS24694S2	100	MS24694S47
100	MS24694S3	100	MS24694S48
100	MS24694S4	100	MS24694S49
100	MS24694S5	100	MS24694S50
100	MS24694S6	100	MS24694S51
100	MS24694S7	100	MS24694S52
100	MS24694S8	100	MS24694S53
100	MS24694S9	100	MS24694S54
100	MS24694S10	100	MS24694S55
100	MS24694S11	100	MS24694S56
100	MS24694S12	100	MS24694S57
100	MS24694S13	100	MS24694S58

AN525 BIN KIT

100	AN525-832R5	100	AN525-10R7
100	AN525-832R6	100	AN525-10R8
100	AN525-832R7	100	AN525-10R9
100	AN525-832R8	100	AN525-10R10
100	AN525-832R9	100	AN525-10R11
100	AN525-832R10	100	AN525-10R12
100	AN525-832R11	100	AN525-10R14
100	AN525-832R12	100	AN525-10R16
100	AN525-832R14	100	AN525-10R18
100	AN525-832R16	100	AN525-10R20
100	AN525-10R5	50	AN525-416R8
100	AN525-10R6	25	AN525-416R10

STRUCTURAL PAN HD BIN KIT

100	MS27039-0804	100	MS27039-1-07
100	MS27039-0805	100	MS27039-1-08
100	MS27039-0806	100	MS27039-1-09
100	MS27039-0807	100	MS27039-1-10
100	MS27039-0808	100	MS27039-1-11
100	MS27039-0809	100	MS27039-1-12
100	MS27039-0810	100	MS27039-1-14
100	MS27039-0811	100	MS27039-1-15
100	MS27039-0812	100	MS27039-1-16
100	MS27039-1-04	100	MS27039C0808
100	MS27039-1-05	100	MS27039C0809
100	MS27039-1-06	100	MS27039C1-08

PAN HD BIN KIT

100	MS35206-213	100	MS35206-241
100	MS35206-215	100	MS35206-242
100	MS35206-216	100	MS35206-243
100	MS35206-217	100	MS35206-244
100	MS35206-218	100	MS35206-245
100	MS35206-219	100	MS35206-246
100	MS35206-226	100	MS35207-261
100	MS35206-228	100	MS35207-262
100	MS35206-229	100	MS35207-263
100	MS35206-230	100	MS35207-264
100	MS35206-231	100	MS35207-265
100	MS35206-232	100	MS35207-267

NON-STRUCTURAL SCREW BIN KIT

100	MS24693S26	100	AN526-632R10
100	MS24693S28	100	AN526-832R6
100	MS24693S29	100	AN526-832R8
100	MS24693S48	100	AN526-832R10
100	MS24693S50	100	AN526-1032R8
100	MS24693S51	100	AN526-1032R10
100	MS24693S52	100	AN526-1032R12
100	MS24693S272	100	MS35206-228
100	MS24693S273	100	MS35206-230
100	MS24693S274	100	MS35206-245
100	AN526-632R6	100	MS35207-263
100	AN526-632R8	100	MS35207-264

NON-STRUCTURAL S/S SCREW BIN KIT

100	MS24693C26	100	AN526C632R6
100	MS24693C28	100	AN526C632R8
100	MS25693C29	100	AN526C632R10
100	MS24693C30	100	AN526C632R12
100	MS24693C48	100	AN526C832R6
100	MS24693C50	100	AN526C832R8
100	MS24693C51	100	AN526C832R10
100	MS24693C52	100	AN526C832R12
100	MS24693C270	100	AN526C1032R8
100	MS24693C272	100	AN526C1032R10
100	MS24693C273	100	AN526C1032R12
100	MS24693C274	100	AN526C1032R16

ECAS Kits do not include compartment bins or cases.

ECAS, LLC. kits include manufacturer name and lot numbers for traceability purposes. All hardware kits consist of 24 items of the most common hardware in the industry. Each kit is discounted 8% less expensive than if parts were purchased separately. Please allow 1 week to ship.

STRUCTURAL SCREW BIN KIT

100	MS24694S4	100	AN525-832R8
100	MS24694S5	100	AN525-832R10
100	MS24694S6	100	AN525-10R7
100	MS24694S7	100	AN525-10R8
100	MS24694S49	100	AN525-10R9
100	MS24694S50	100	AN525-10R10
100	MS24694S51	100	AN525-10R12
100	MS24694S52	100	MS27039-0807
100	MS24694S53	100	MS27039-0808
100	MS24694S54	100	MS27039-1-08
100	AN525-832R6	100	MS27039-1-09
100	AN525-832R7	100	MS27039-1-10

INSTRUMENT SCREW/NUT BIN KIT

100	MS35214-16	100	MS24693BB28
100	MS35214-20	100	MS24693BB30
100	MS35214-25	100	MS24693BB32
100	MS35214-27	100	MS24693BB34
100	MS35214-28	100	MS24693BB36
100	MS35214-29	25	MS33737-10C
100	MS35214-30	25	MS33737-11C
100	MS35214-31	25	MS33737-12C
100	MS35214-32	25	MS33737-13C
100	MS35214-33	25	MS33737-14C
100	MS35214-42	25	MS33737-15C
100	MS35214-46	25	MS33737-16C

TRUSS HD BIN KIT

100	AN526-632R6	100	AN526C632R6
100	AN526-632R8	100	AN526C632R8
100	AN526-632R10	100	AN526C632R10
100	AN526-632R12	100	AN526C632R12
100	AN526-832R6	100	AN526C832R6
100	AN526-832R8	100	AN526C832R8
100	AN526-832R10	100	AN526C832R10
100	AN526-832R12	100	AN526C832R12
100	AN526-1032R6	100	AN526C1032R6
100	AN526-1032R8	100	AN526C1032R8
100	AN526-1032R10	100	AN526C1032R10
100	AN526-1032R12	100	AN526C1032R12

LOCKNUT/CASTLE NUT BIN KIT

100	MS21044N06	100	MS21083N08
100	MS21044N08	100	MS21083N3
100	MS21044N3	100	MS21083N4
100	MS21044N4	100	AN310-3
50	MS21044N5	100	AN310-4
25	MS21044N6	50	AN310-5
100	MS21045-06	25	AN310-6
100	MS21045-08	100	MS21042L06
100	MS21045-3	100	MS21042L08
100	MS21045-4	100	MS21042L3
50	MS21045-5	100	MS21042L4
25	MS21045-6	50	MS21042L5

CASTLE/PLAIN NUT BIN KIT

100	AN310-3	100	AN315-3R
100	AN310-4	100	AN315-4R
50	AN310-5	50	AN315-5R
25	AN310-6	25	AN315-6R
10	AN310-7	100	AN316-4R
5	AN310-8	50	AN316-5R
100	AN320-3	25	AN316-6R
100	AN320-4	100	MS35649-242
50	AN320-5	100	MS35649-262
25	AN320-6	100	MS35649-282
10	AN320-7	100	MS35650-302
5	AN320-8	100	MS35650-3252

NUTPLATE BIN KIT

100	MS21047L06	100	MS21069L06
100	MS21047L08	100	MS21069L08
100	MS21047L3	100	MS21069L3
100	MS21049L08	100	MS21071L06
100	MS21049L3	100	MS21071L08
100	MS21055L3	100	MS21071L3
100	MS21059L06	100	MS21073L06
100	MS21059L08	100	MS21073L08
100	MS21059L3	100	MS21073L3
50	MS21059L4	100	MS21075L06N
100	MS21061L08	100	MS21075L08N
100	MS21061L3	100	MS21075L3N

TINNERMAN BIN KIT

50	D6187-4Z1	50	A1932-8Z1D
50	A1784-6Z1D	50	A1776-4Z1D
50	A1785-6Z1D	50	A1181-6Z1D
50	A1786-8Z1D	50	A1777-6Z1D
50	A1274-8-1	50	A1778-8Z1D
50	A1789-8Z1D	50	A1779-10Z1D
50	A1348-8Z1D	50	A6195-6Z1D
50	A1787-8Z1D	50	A6195-8Z1D
50	A1788-8Z1D	5	A6912-832-502
50	A1758-10Z1D	100	A3236-012-24A
50	A1350-10Z1D	100	A3135-017-24A
50	A1787-10Z1D	100	A3235-020-24A

GROMMET/GASKET BIN KIT

100	MS35489-4	10	MS35489-15
25	MS35489-5	10	MS35489-16
50	MS35489-6	10	MS35489-17
25	MS35489-7	10	MS35489-18
10	MS35489-8	10	MS35489-19
25	MS35489-9	10	MS35489-20
10	MS35489-10	5	MS35489-22
10	MS35489-11	100	MS35769-6
10	MS35489-12	100	MS35769-8
25	MS35489-13	50	MS35769-11
25	MS35489-134	25	MS35769-21
25	MS35489-14	25	MS35769-48

RING TERMINAL WIRE CAP BIN KIT

100	MS25036-101	100	M7928/5-3
100	MS25036-102	50	M7928/5-4
100	MS25036-103	25	M7928/5-5
100	MS25036-106	100	32446
100	MS25036-108	100	32448
100	MS25036-112	100	MS25274-2
100	MS25036-148	100	MS25274-3
100	MS25036-149	25	D436-36
100	MS25036-150	25	D436-37
100	MS25036-153	25	D436-38
50	MS25036-156	25	D142-50
100	M7928/5-2	25	D142-51

FITTING BIN KIT

10	AN806D4	10	AN929-2
10	AN806D5	10	AN929-3
10	AN806D6	10	AN929-4
10	AN815-4D	10	AN929-5
5	AN815-6D	10	AN929-6
10	AN816-4D	25	MS20819-2D
5	AN816-6D	25	MS20819-3D
10	AN818-4D	25	MS20819-4D
10	AN818-6D	25	MS20819-5D
5	AN824-4D	25	MS20819-6D
5	AN824-6D	5	MS20822-4D
5	AN833-6D	5	MS20823-6D

How can we help? 1-866-796-5125



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