SKYBOLT

AEROSPACE FASTENERS

CLoc® | ZLoc® | ALoc® | Armorloc® | Skytanium® | Diamondhead®



Innovative Fastener Manufacturing Since 1982

Bonding Products

Industry Standard Bonding Process and Products for Panel Fasteners & Platenuts

www.skybolt.com | 1.800.223.1963 | 352.326.0001
9000 Airport Blvd., Leesburg International Airport (KLEE), Leesburg, FL 34788 USA

How to Choose the Right CLoc® Fastener

The application will determine the correct fastener:

1) Is the application non-structural with no mass consideration?

Consider the CLoc® 2000 Series

2) Is the application semi-structural with some mass to consider?

Consider the CLoc® 4000 or 6000 Series (if lip or panel overlap greater than 1.00)

3) Is available lip or panel overlap restrictive? (width required to mount receptacle)

- .355 to .500 – Consider the CLoc® 2500 Series
- .500 to .710 – Consider the CLoc® 26000/2700/2800 Series
- .710* or more – Consider the CLoc® 4000 Series (.860* for SK244/245 Rec)

*See diagram on Page 2 or Page 20 for panel configuration/restrictions.

4) Is weight a factor?

Consider the Skytanium® CLoc® ZG Series for 30% to 50% Weight savings (without sacrificing steel strength ratings)

5) Do you prefer a Rivet Receptacle? A crimp Receptacle? A Backing Nut Receptacle? Or a bonded Receptacle?

Need Convincing From Current Skybolt® Customer Applications?

What is the most demanding endurance application that also requires the absolute lightest fastener? Auto racing. Skybolt® has engineered fasteners that are lighter but stronger than anything on the market. What works on Sundays also earns its wings 24/7 in the aerospace world, the defense world, the commercial applications world, and the marine world.

- Most NASCAR teams rely on Skybolt®™ Skytanium® Series Fasteners for significant weight savings without any sacrifice in strength.
- One of the world's largest commercial aircraft companies found the perfect Avionics Fastener in the Skybolt®™ Skytanium® CLoc® ZG2500 Series Fasteners – a 50% weight savings without sacrificing strength.
- The Cessna 150, 172, 177, and 182 fleet just found major relief in the new Skybolt®™ SK2003 Cowling Mount using CLoc® 4000 Series Stainless Fasteners.
- The new Skybolt®™ 6000 Series Fasteners are designed for IED (Explosive) applications and armor plating applications.
- One of the world's foremost producers of missile systems found the perfect CLoc® Adjustable Bonded Receptacle for composite structures.
- Another world leader in aerospace manufacturing found the perfect CLoc® Receptacle for an anti-abrasive application.

CLoc® 2000 Series



CLoc® 4000 Series



Platemounts



ZLoc®



ALoc®



Tools



Skybolt CLoc® 2000 and 4000 Series Bonded Series TSO-C148

Part #	Diecut Part#	Description - Fixed - Non Floating
SK212-10AB1E	SK212DC	2000 Series Alum Fixed Reduced Area - Hard Anodized
SK212-12AE	SK212DC	Aluminum Fixed
SK212-12SE	SK212DC	Stainless Fixed
Part #	**Diecut Part#**	**Description - Fixed and Adjustable - Floating**
SK201A01AE	SK201DC	2600 All Aluminum - Fixed Grip - Floating - 201 Receptacle
SK201C01E	SK201DC	2600 All Stainless - Fixed Grip - Floating - 201 Receptacle
SK203A01AE	SK201DC	2600 All Aluminum - Adjustable Grip - Floating - 203 Receptacle
SK203C01E	SK201DC	2600 All Stainless - Adjustable Grip - Floating - 203 Receptacle
Part #	**Diecut Part#**	
SK214-16SE	SK214DC	4000 Series - Fixed Grip - Non-Floating - Machined
SK40R17-2E	SK214DC	4000 Series - Fixed Grip - Non-Floating - Formed
SK244C16CE	SK16DC	4000 Series - Fixed Grip - Floating - Non-Removable Insert
SK244C161CE	SK161DC	4000 Series - Fixed Grip - Floating - Removable Insert
SK245C161CE	SK161DC	4000 Series - Adjustable Grip - Floating - Removable Insert
SK245C16CE	SK16DC	4000 Series - Adjustable Grip - Floating - Non-Removable Insert



Skybolt QuickChange™ Toolless™ Nutplates – Rivet – TSO-C148

Part #	Description - NASM21060* Compatible Floating Nutplates - QuikChange™ Inserts TSO-C148
SK21060L08	#8-32 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
SK21060L3	#10-32 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
SK21060L4	#1/4-28 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
Part #	
SK21060LM4	M4 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
SK21060LM5	M5 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
SK21060LM6	M6 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™ - Rivet
Part #	
SK21078FA3	#10-32 Skytanium/Nylon - QuickChange™ Cage - Toolless™ - Rivet
SK21078FA420	#1/4-20 Skytanium/Nylon - QuickChange™ Cage - Toolless™ - Rivet
SK21078FA428	#1/4-28 Skytanium/Nylon - QuickChange™ Cage - Toolless™ - Rivet



Skybolt QuickChange™ Toolless™ Nutplates – Bonded – TSO-C148

Part #	Diecut Part#	Description - NASM21060* Compatible Floating Nutplates - QuikChange™ Inserts TSO-C148
SK21060L08E	SK21060DC08	#8-32 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
SK21060L3E	SK21060DC3	#10-32 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
SK21060L4E	SK21060DC4	#1/4-28 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
Part #	**Diecut Part#**	
SK21060LM4E	SK21060DC08	M4 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
SK21060LM5E	SK21060DC3	M5 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
SK21060LM6E	SK21060DC4	M6 304 Stainless - Dry Film - QuickChange™ Cage - Toolless™
Part #	**Diecut Part#**	
SK21078FA3E	SK21060DC3	#10-32 Skytanium/Nylon - QuickChange™ Cage - Toolless™
SK21078FA420E	SK21060DC4	#1/4-20 Skytanium/Nylon - QuickChange™ Cage - Toolless™
SK21078FA428E	SK21060DC4	#1/4-28 Skytanium/Nylon - QuickChange™ Cage - Toolless™



Skybolt Bonding – State of the Art Epoxy & Hybrid Structural Tape Bonding

Skybolt offers 1/4-Turn Panel Fasteners and our QuickChange™ Platenuts in a bonding configuration in both 2-part Epoxy and high strength Tape Bonding. For non-smooth surfaces, our 2-part Epoxy provides secure bonds with minimal panel preparation. For smooth surface aluminum and composite, we offer the fasteners with easy to install high strength Die Cut Tape Bonding. Order 2-Part Epoxy Part# H375 for epoxy applications. Cartridge Gun and Mixing tips are required. For Die Cut Hybrid Structural Tape, order the referenced Die Cut Part# (Packages of 10) for customer installed Tape Bonding.

Skybolt QuickChange™ Toolless™ Nutplates – Bonded – TSO-C148

Part #	Diecut Part#	Description - 1.0 Skytanium Base - AN3A Stud
SKM10-1032-3AS	SK10DC	#10-32 x .62 Length x .125 Grip
SKM10-1032-4AS	SK10DC	#10-32 x .69 Length x .188 Grip
SKM10-1032-5AS	SK10DC	#10-32 x .81 Length x .313 Grip
SKM10-1032-6AS	SK10DC	#10-32 x .94 Length x .438 Grip
SKM10-1032-7AS	SK10DC	#10-32 x 1.06 Length x .563 Grip
SKM10-1032-10AS	SK10DC	#10-32 x 1.19 Length x .688 Grip
SKM10-1032-11AS	SK10DC	#10-32 x 1.31 Length x .813 Grip
SKM10-1032-12AS	SK10DC	#10-32 x 1.44 Length x .9.38 Grip
SKM10-1032-13AS	SK10DC	#10-32 x 1.56 Length x 1.063 Grip
Part #	**Diecut Part#**	**Description - 1.0 Skytanium Base - AN4A Stud**
SKM10-428-3AS	SK10DC	1/4-28 x .62 Length x .125 Grip
SKM10-428-4AS	SK10DC	1/4-28 x .69 Length x .188 Grip
SKM10-428-5AS	SK10DC	1/4-28 x .81 Length x .313 Grip
SKM10-428-6AS	SK10DC	1/4-28 x .94 Length x .438 Grip
SKM10-428-7AS	SK10DC	1/4-28 x 1.06 Length x .563 Grip
SKM10-428-10AS	SK10DC	1/4-28 x 1.19 Length x .688 Grip
SKM10-428-11AS	SK10DC	1/4-28 x 1.31 Length x .813 Grip
SKM10-428-12AS	SK10DC	1/4-28 x 1.44 Length x .9.38 Grip
SKM10-428-13AS	SK10DC	1/4-28 x 1.56 Length x 1.063 Grip



Note: Change ALCRS to CRS to denote 300 Series Base and 300/400 Series Male Studs as noted.

Skybolt Bonded Standoffs – Imperial – TSO-C148

Part #	Diecut Part#	Description - Skytanium Standoff - Base Dia 1.00 x .625 T .125
SKF10-1032-4A	SK10DC	#10-32 x .250 Length
SKF10-1032-5A	SK10DC	#10-32 x .3125 Length
SKF10-1032-6A	SK10DC	#10-32 x .375 Length
SKF10-1032-8A	SK10DC	#10-32 x .500 Length
SKF10-428-4A	SK10DC	1/4-28 x .250 Length
SKF10-428-5A	SK10DC	1/4-28 x .3125 Length
SKF10-428-6A	SK10DC	1/4-28 x .375 Length
SKF10-428-8A	SK10DC	1/4-28 x .500 Length



Skybolt Bonded Standoffs – Metric – TSO-C148

Part #	Diecut Part#	Description - Skytanium Standoff - Base Dia 1.00 x .625 T .125
SKFM75-4-4A	SK75DC	4mm x 6.350 Length
SKFM75-4-5A	SK75DC	4mm x 7.938 Length
SKFM75-4-6A	SK75DC	4mm x 9.525 Length
SKFM75-4-8A	SK75DC	4mm x 12.700 Length
SKFM10-5-4A	SK10DC	4mm x 6.350 Length
SKFM10-5-5A	SK10DC	4mm x 7.938 Length
SKFM10-5-6A	SK10DC	4mm x 9.525 Length
SKFM10-5-8A	SK10DC	4mm x 12.700 Length
SKFM10-6-4A	SK10DC	4mm x 6.350 Length
SKFM10-6-5A	SK10DC	4mm x 7.938 Length
SKFM10-6-6A	SK10DC	4mm x 9.525 Length
SKFM10-6-8A	SK10DC	4mm x 12.700 Length



Skybolt Bonded – Internal Locking Nut

Part #	Diecut Part#	Description - 300 Series Standoff - Base Dia 1.00 T .080
SKN-632N	SK10DC	#6-32 Internal Locknut 250F
SKN-832N	SK10DC	#8-32 Internal Locknut 250F
SKN-1032N	SK10DC	#10-32 Internal Locknut 250F
SKN-428N	SK10DC	1/4-28 Internal Locknut 250F
SKN-M4	SK10DC	4mm Internal Locknut 250F
SKN-M5	SK10DC	5mm Internal Locknut 250F
SKN-M6	SK10DC	6mm Internal Locknut 250F



Skybolt Bonded – Blind Rivet Mount

Part #	Diecut Part#	Description - 300 Series Standoff - Base Dia 1.00 T .080
SKR-125	SK10DC	For 1/8-Inch Blind Rivet
SKR-3125	SK10DC	For 5/16-Inch Blind Rivet



Note - All DieCut Part#s are optional for Hybrid Structural Tape Bonding - Not required for 2-Part Epoxy Applications

Skybolt Adhesive – State of the Art (2023) Technology in Bonding

Part #	Replaces	Description
H375	CB200	2-Part Epoxy Metals, FRP,wood,rubber,other materials 1:1 Mix



	Hernon®	ClickBond® CB200
Working Time - Minutes	10-15	5
Fixture time - Minutes	5-10	30
Full Cure - Hours	24	24
Temp Range F	-67 to 250	-67 to 250
Cure Performance ASTM D1002 psi	4000-6000	4400
Reach Compliant	Yes	No
Ratio	1:1	8:1

Includes 1Ea Mixer Tip

As the aerospace industry has preached laboratory conditions for bonding spanning many decades, Skybolt approached the bonding method based on reality. We tested various bonding products in search of a compound that requires minimal panel preparation - Reality. The Hernon bonding agent, based on our hands on application testing, meets our goal of reasonable REALITY with a clean panel substrate conditoned with a simple Acetone wipe. Independant lab tested to MSxxxxx performance.

Skybolt CLoc® Adhesive Applicator Tools

Part #	Description
SK700	Dispenser Gun - Includes 1:1 Dispenser Ram

Part #	Description
SK10001 Electronic Pneumatic Dispenser	Electronic dispenser with foot pedal makes bonding quick and easy for production applications. 25psi application pressure; 7 psi rebound pressure (eliminates wasted drip residue)



Part #	Description
SK70011	1:1 Dispenser Ram - Included with SK700
SK80011	10 Pak 1:1 Mixer Tip - 1ea Included with H375 Cartridge L= 3-1/2
SK80012	10 Pak 1:1 Mixer Tip - 1ea Included with H375 Cartridge L= 4-3/4



Skybolt Hybrid Structural Tape – Die Cut

See Previous Pages for Part Numbers



Skybolt CLoc® 2000 Series Fasteners

3 - Piece Series (Stud/Retainer - Locking Receptacle)



ZG2500, ZG2600,
See page 8 & 11



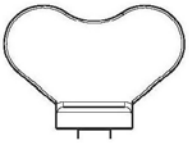
SK25S51, SK26S51
See Page 8 and 12
SK27S3, SK28S3, ZG28S3
See Page 18 and 19



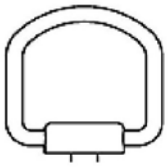
SK2500, SK2600
See Page 8 and 11
SK2700,SK2800
See Page 17 & 19



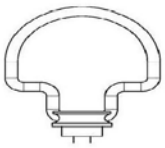
SK28T3
See Page 19



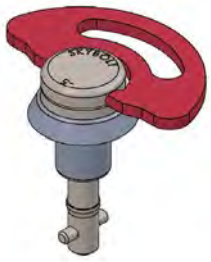
SK2500W, ZG2500W,
SK2600W, ZG2600W
See page 10 & 13



SK2500R, ZG2500R,
SK2600R, ZG2600R
See page 10 & 14



SK26S22, ZG26S22
See Page 15



SK2600SFW, ZG2600SFW
See page 16

SK2500 and ZG2500 Series

For SK and ZG2500 Series Studs - Drill panel to 1/4 (Precision -.257 or 6.53mm)

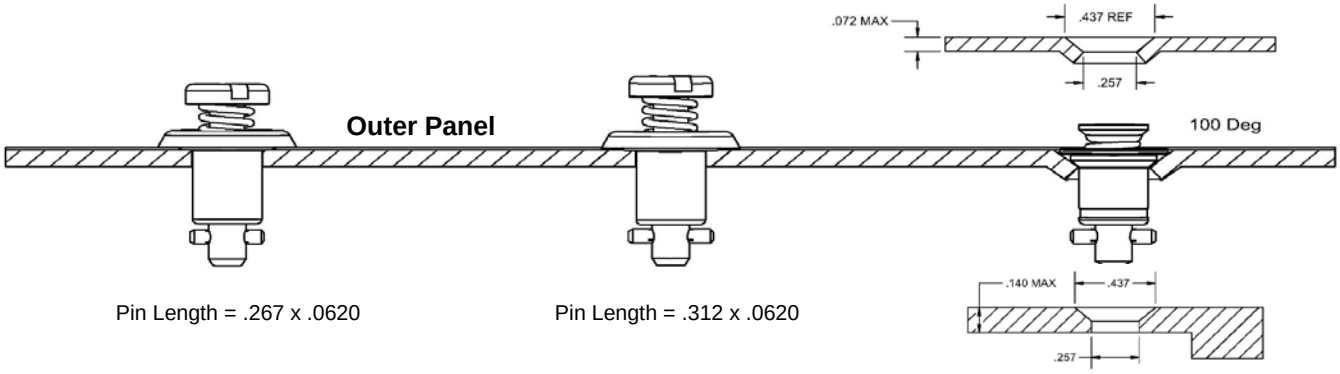
SK2600 and ZG2600 Series

For SK and ZG2600 Series Studs - Drill panel to 1/4 (Precision -.257 or 6.53mm)

*Industry standard (non-machined) cups have a slight 'bump' that is .359 diameter.

SK2700, SK2800 and ZG2800 Series

Thin Outer Panel Dimple - Up to .072 Max. Drill panel to .213 or 5.41mm Dimple so that thru hole is .257 or 5.53mm)
Thick Outer Panel Countersink >.072 - Drill panel to .257 or 5.53mm. 100deg countersink to surface dia of .437 or 11mm



Pin Length = .267 x .0620

Pin Length = .312 x .0620

Thickness >.140 - Back-counterbore .375 dia to the .140 depth

For Retainers - See Page 12

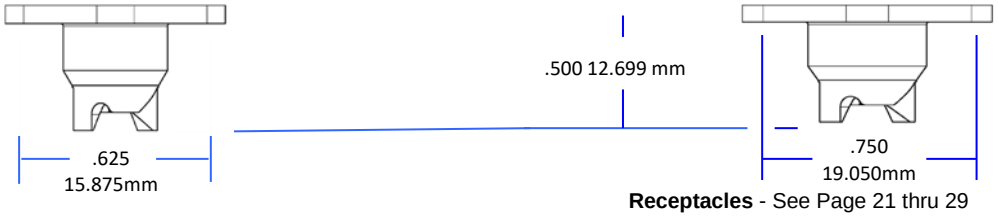
SK212-10

Drill Center Hole 5/16 (7.94mm) for all panels

SK212-12

Drill Center Hole 13/32 (10.32mm) for all panels

INNER SUPPORT PANEL



Receptacles - See Page 21 thru 29

Note: Add .100 to receptacle depth to allow for fastener protrusion when cycled lock to unlock (.500 + .100) = Clearance Requirement

CLoc® 2000 Series Common Sets

Forget Charts - The Following assemblies solve 99% of all applications



Stainless Series - Flush Head

SK28S3-SET1	Grip Range
SK28S3-2S Phillips Stud	.040-.400
SK2600 - LWS Stud Retainer	
SK213-2 Adjustable Receptacle	
3/32" Rivets not included	

Most Common Aircraft Set

Skytanium® Series - Flush Head

ZG28S3-SET2	Grip Range
ZG28S3-2 Phillips Stud	.040-.400
SK2600 - LWS Stud Retainer	
SK213-28 Adjustable Receptacle	
1/8" Rivets not included	

Most Common NASCAR Set



Stainless Series - Protruding Head

SK26S51-SET1	Grip Range
SK26S51-1S Phillips Stud	.040-.400
SK2600-LWS Stud Retainer	
SK213-2 Adjustable Receptacle	
3/32" Rivets not included	

Skytanium® Series - Protruding Head

ZG2600-SET2	Grip Range
ZG2600-1 Collared Slot Stud	.040-.400
SK2600-LWS Stud Retainer	
SK213-28 Adjustable Receptacle	
1/8" Rivets not included	

Note: Order SET1 for SK213-2 (3/32 Rivets). Order SET2 for SK213-28 (1/8 Rivets)



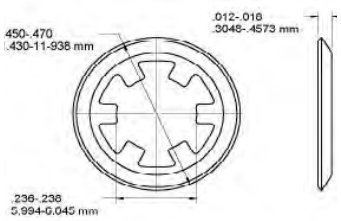
ZG28S3/SK28S3



ZG2600



SK26S51



SK2600-LWS



SK213

CLoc® SK2500 ZG2500 Protruding Head

3 - Piece Series (Stud/Retainer - Locking Receptacle)


SK2500 Series Standard Slot
(A= .302)


ZG2500 Series Collared Slot
(A= .375)

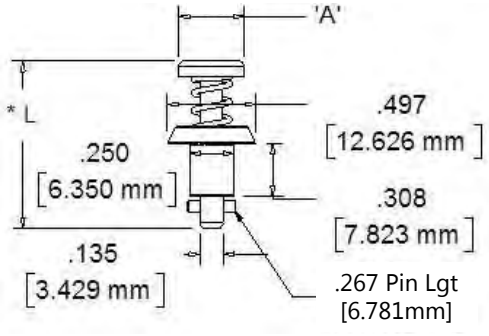

SK25S51 Series Phillips
(A= .302)

- LightWeight Aerospace Panel Fasteners - 50%Weight Savings
- Designed for Restrictive (Minimum Overlap) Mounting Surfaces
- Reduced Thru-Hole Diameter For Mounting Close to Edge
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Honeywell-Airbus Approvals - A380 Avionics (ZG2500 Series)
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate


SK2500SC
ZG2500


SK25S51
ZG25S51


SK2500



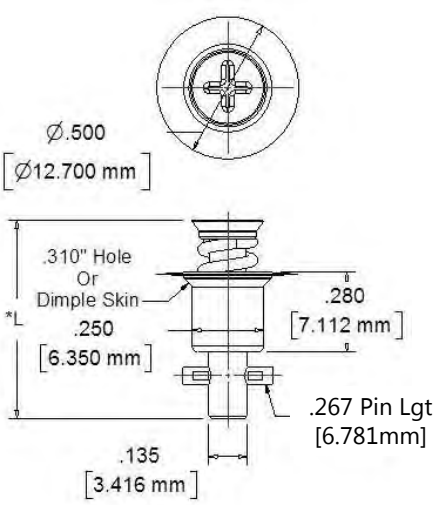
Note: 2500 Series Studs may use SK212-10, SK212-12, or SK213 Series Receptacles.

Protruding Head 2500 Series Stud					SK212-10 Series Fixed Depth Receptacle Combined Panels				Total Stud Length L	
Stainless Standard Slot	Stainless Collared Slot	Stainless Phillips	Skytanium® Collared Slot	Skytanium® Phillips(1)	Decimal		Millimeter		Decimal	Millimeter
					Min	Max	Min	Max		
SK2500-1S	SK2500SC1S	SK25S51-1	ZG2500-1	ZG25S51-1	.030	.059	0.762	1.499	.760	19.304
SK2500-2S	SK2500SC2S	SK25S51-2	ZG2500-2	ZG25S51-2	.060	.089	1.524	2.261	.790	20.066
SK2500-3S	SK2500SC3S	SK25S51-3	ZG2500-3	ZG25S51-3	.090	.119	2.286	3.023	.820	20.828
SK2500-4S	SK2500SC4S	SK25S51-4	ZG2500-4	ZG25S51-4	.120	.149	3.048	3.785	.850	21.590
SK2500-5S	SK2500SC5S	SK25S51-5	ZG2500-5	ZG25S51-5	.150	.179	3.810	4.547	.880	22.352
SK2500-6S	SK2500SC6S	SK25S51-6	ZG2500-6	ZG25S51-6	.180	.209	4.572	5.309	.910	23.114
SK2500-7S	SK2500SC7S	SK25S51-7	ZG2500-7	ZG25S51-7	.210	.239	5.334	6.071	.940	23.876
SK2500-8S	SK2500SC8S	SK25S51-8	ZG2500-8	ZG25S51-8	.240	.269	6.096	6.833	.970	24.638
SK2500-9S	SK2500SC9S	SK25S51-9	ZG2500-9	ZG25S51-9	.270	.299	6.858	7.595	1.000	25.400
SK2500-10S	SK2500SC10S	SK25S51-10	ZG2500-10	ZG25S51-10	.300	.329	7.620	8.357	1.030	26.162
SK2500-11S	SK2500SC11S	SK25S51-11	ZG2500-11	ZG25S51-11	.330	.359	8.382	9.119	1.060	26.924
SK2500-12S	SK2500SC12S	SK25S51-12	ZG2500-12	ZG25S51-12	.360	.389	9.144	9.881	1.090	27.686
SK2500-13S	SK2500SC13S	SK25S51-13	ZG2500-13	ZG25S51-13	.390	.419	9.906	10.643	1.120	28.448
SK2500-14S	SK2500SC14S	SK25S51-14	ZG2500-14	ZG25S51-14	.420	.449	10.668	11.405	1.150	29.210
SK2500-15S	SK2500SC15S	SK25S51-15	ZG2500-15	ZG25S51-15	.450	.479	11.430	12.167	1.180	29.972

Note: See page 22 for plating options and part# suffix. Note (1) ZG25S51 use stainless Stud/Skytanium® Cup.

CLoc® SK2500 ZG2500 Flush Head

3 - Piece Series (Stud/Retainer - Locking Receptacle)



- LightWeight Aerospace Panel Fasteners - 50% Weight Savings
- Designed for Restrictive (Minimum Overlap) Mounting Surfaces
- Reduced Thru-Hole Diameter For Mounting Close to Edge
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II



Note: 2500 Series Studs may use SK212-10, SK212-12, or SK213 Series Receptacles.

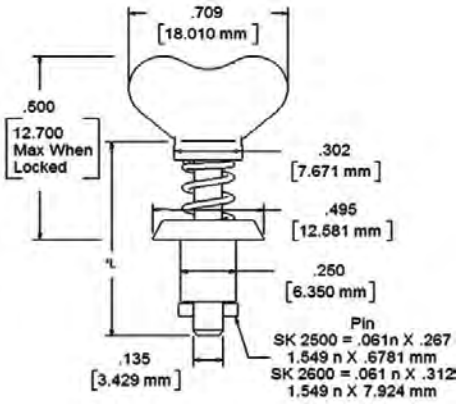
Flush Head 2500 Series Stud		Total Stud Length L		**SK212-10 Series** Fixed Depth Receptacle Combined Panels			
Stainless Phillips	Skytanium® Phillips(1)	Decimal	Millimeter	Decimal		Millimeter	
				Min	Max	Min	Max
SK25S3-1S	ZG25S3-1	.610	15.494	.010	.029	0.254	0.737
SK25S3-2S	ZG25S3-2	.640	16.256	.030	.059	0.762	1.499
SK25S3-3S	ZG25S3-3	.670	17.018	.060	.089	1.524	2.261
SK25S3-4S	ZG25S3-4	.700	17.780	.090	.119	2.286	3.023
SK25S3-5S	ZG25S3-5	.730	18.542	.120	.149	3.048	3.785
SK25S3-6S	ZG25S3-6	.760	19.304	.150	.179	3.810	4.547
SK25S3-7S	ZG25S3-7	.790	20.066	.180	.209	4.572	5.309
SK25S3-8S	ZG25S3-8	.820	20.828	.210	.239	5.334	6.071
SK25S3-9S	ZG25S3-9	.850	21.590	.240	.269	6.096	6.833
SK25S3-10S	ZG25S3-10	.880	22.352	.270	.299	6.858	7.595
SK25S3-11S	ZG25S3-11	.910	23.114	.300	.329	7.620	8.357
SK25S3-12S	ZG25S3-12	.940	23.876	.330	.359	8.382	9.119
SK25S3-13S	ZG25S3-13	.970	24.638	.360	.389	9.144	9.881
SK25S3-14S	ZG25S3-14	1.000	25.400	.390	.419	9.906	10.643
SK25S3-15S	ZG25S3-15	1.030	26.162	.420	.449	10.668	11.405
SK25S3-16S	ZG25S3-16	1.060	26.924	.450	.479	11.430	12.167

Note: See page 22 for plating options and part# suffix Note (1) ZG25S3 use stainless stud/Skytanium® cup.

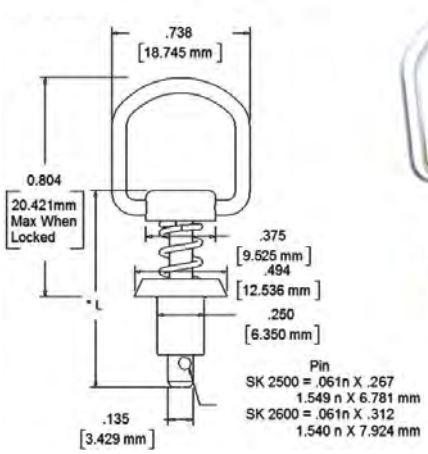
CLoc® SK2500 Winged & Folding Ring

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- LightWeight Aerospace Panel Fasteners - 50%Weight Savings
- Designed for Restrictive (Minimum Overlap) Mounting Surfaces
- Reduced Thru-Hole Diameter For Mounting Close to Edge
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- ZG2500R Series Honeywell-Airbus Approvals - A380 Avionics
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate









Note: 2500 Series Studs may use SK212-10, SK212-12, or SK213 Series Receptacles.

Winged 2500 Series Studs		Stud Length (L)		**Folding Ring 2500 Series**		Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
Stainless Wing	Skytanium® Wing	Dec.	mm	Stainless Folding Ring	Skytanium® Folding Ring	Dec.	mm	Decimal		Millimeter		Decimal		Millimeter	
								Min	Max	Min	Max	Min	Max	Min	Max
SK2500-1SW	ZG2500-1W	.760	19.304	SK2500R1S	ZG2500R1	.825	20.955	.030	.059	0.762	1.499	.020	.320	0.508	8.128
SK2500-2SW	ZG2500-2W	.790	20.066	SK2500R2S	ZG2500R2	.855	21.717	.060	.089	1.524	2.261	.020	.350	0.508	8.890
SK2500-3SW	ZG2500-3W	.820	20.828	SK2500R3S	ZG2500R3	.885	22.479	.090	.119	2.286	3.023	.050	.380	1.270	9.652
SK2500-4SW	ZG2500-4W	.850	21.590	SK2500R4S	ZG2500R4	.915	23.241	.120	.149	3.048	3.785	.080	.410	2.032	10.414
SK2500-5SW	ZG2500-5W	.880	22.352	SK2500R5S	ZG2500R5	.945	24.003	.150	.179	3.810	4.547	.110	.440	2.794	11.176
SK2500-6SW	ZG2500-6W	.910	23.114	SK2500R6S	ZG2500R6	.975	24.765	.180	.209	4.572	5.309	.140	.470	3.556	11.938
SK2500-7SW	ZG2500-7W	.940	23.876	SK2500R7S	ZG2500R7	1.005	25.527	.210	.239	5.334	6.071	.170	.500	4.318	12.700
SK2500-8SW	ZG2500-8W	.970	24.638	SK2500R8S	ZG2500R8	1.035	26.289	.240	.269	6.096	6.833	.200	.530	5.080	13.462
SK2500-9SW	ZG2500-9W	1.000	25.400	SK2500R9S	ZG2500R9	1.065	27.051	.270	.299	6.858	7.595	.230	.560	5.842	14.224
SK2500-10SW	ZG2500-10W	1.030	26.162	SK2500R10S	ZG2500R10	1.095	27.813	.300	.329	7.620	8.357	.260	.590	6.604	14.986
SK2500-11SW	ZG2500-11W	1.060	26.924	SK2500R11S	ZG2500R11	1.125	28.575	.330	.359	8.382	9.119	.290	.620	7.366	15.748
SK2500-12SW	ZG2500-12W	1.090	27.686	SK2500R12S	ZG2500R12	1.155	29.337	.360	.389	9.144	9.881	.320	.650	8.128	16.510
SK2500-13SW	ZG2500-13W	1.120	28.448	SK2500R13S	ZG2500R13	1.185	30.099	.390	.419	9.906	10.643	.350	.680	8.890	17.272
SK2500-14SW	ZG2500-14W	1.150	29.210	SK2500R14S	ZG2500R14	1.215	30.861	.420	.449	10.668	11.405	.380	.710	9.652	18.034
SK2500-15SW	ZG2500-15W	1.180	29.972	SK2500R15S	ZG2500R15	1.245	31.623	.450	.479	11.430	12.167	.410	.740	10.414	18.796

Note: See page 22 for plating options and part# suffix.

CLoc® SK2600 ZG2600 Slotted Head

3 - Piece Series (Stud/Retainer - Locking Receptacle)

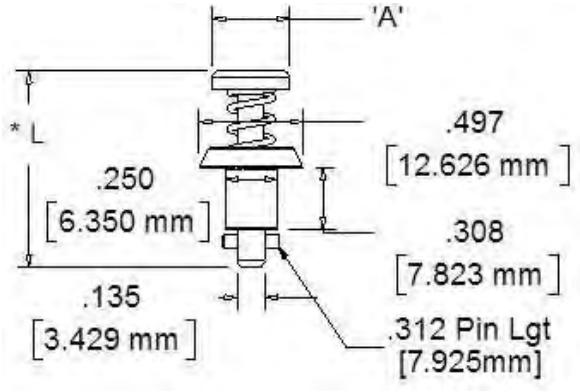


SK2600 Series Standard Slot
(A= .302)



ZG2600 Series Collared Slot
(A= .375)

- TSO-C148 Approved. Designed to exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate





ZG2600



SK2600

Replacements	Stainless Slotted	Steel Slotted
CamLoc®	2600-(x)S	2600-(x)
Lisi	1126007-(x)	1126000-(x)

Note: 2600 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Slotted Head 2600 Series Studs			Total Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
Steel Standard Slot	Stainless Standard Slot	Skytanium® Collared Slot	Dec	mm	Decimal		Millimeter		Decimal		Millimeter	
					Min	Max	Min	Max	Min	Max	Min	Max
2600-1	SK2600-1S	ZG2600-1	.760	19.304	0.030	0.059	0.762	1.499	.020	.320	0.508	8.128
2600-2	SK2600-2S	ZG2600-2	.790	20.066	0.060	0.089	1.524	2.261	.020	.350	0.508	8.890
2600-3	SK2600-3S	ZG2600-3	.820	20.828	0.090	0.119	2.286	3.023	.050	.380	1.270	9.652
2600-4	SK2600-4S	ZG2600-4	.850	21.590	0.120	0.149	3.048	3.785	.080	.410	2.032	10.414
2600-5	SK2600-5S	ZG2600-5	.880	22.352	0.150	0.179	3.810	4.547	.110	.440	2.794	11.176
2600-6	SK2600-6S	ZG2600-6	.910	23.114	0.180	0.209	4.572	5.309	.140	.470	3.556	11.938
2600-7	SK2600-7S	ZG2600-7	.940	23.876	0.210	0.239	5.334	6.071	.170	.500	4.318	12.700
2600-8	SK2600-8S	ZG2600-8	.970	24.638	0.240	0.269	6.096	6.833	.200	.530	5.080	13.462
2600-9	SK2600-9S	ZG2600-9	1.000	25.400	0.270	0.299	6.858	7.595	.230	.560	5.842	14.224
2600-10	SK2600-10S	ZG2600-10	1.030	26.162	0.300	0.329	7.620	8.357	.260	.590	6.604	14.986
2600-11	SK2600-11S	ZG2600-11	1.060	26.924	0.330	0.359	8.382	9.119	.290	.620	7.366	15.748
2600-12	SK2600-12S	ZG2600-12	1.090	27.686	0.360	0.389	9.144	9.881	.320	.650	8.128	16.510
2600-13	SK2600-13S	ZG2600-13	1.120	28.448	0.390	0.419	9.906	10.643	.350	.680	8.890	17.272
2600-14	SK2600-14S	ZG2600-14	1.150	29.210	0.420	0.449	10.668	11.405	.380	.710	9.652	18.034
2600-15	SK2600-15S	ZG2600-15	1.180	29.972	0.450	0.479	11.430	12.167	.410	.740	10.414	18.796

* For SK213-1 Receptacles, add .120 to Min Grip. Note (1) ZG26S51 use stainless stud/Skytanium® cup. Note: CLoc®-CamLoc® grip charts are identical for 2600 Series parts. Physical dimensions are identical. See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK2600 ZG2600 Phillips Head

3 - Piece Series (Stud/Retainer - Locking Receptacle)

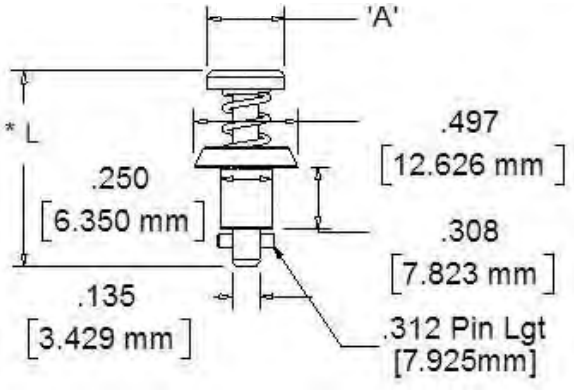


SK26S51 Series Phillips
(A= .302)

- TSO-C148 Approved. Designed to exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate



SK26S51
ZG26S51



Replacements	Stainless Phillips	Steel Phillips
CamLoc®	26S51-(x)	26S8-(x)
Lisi	1126008-(x)	1126004-(x)

Note: 2600 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

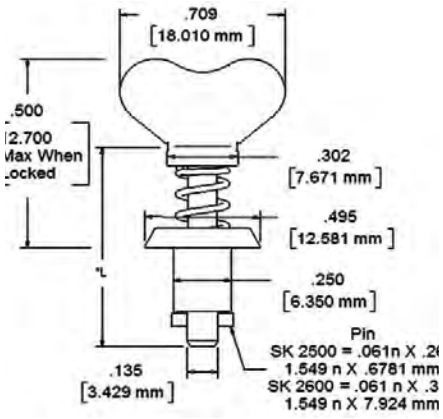
Phillips Head 2600 Series Studs			Total Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
					Decimal		Millimeter		Decimal		Millimeter	
Steel Phillips	Stainless Phillips	Skytanium® Phillips	Dec	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK26S8-1	SK26S51-1	ZG26S51-1	.760	19.304	0.030	0.059	0.762	1.499	.020	.320	0.508	8.128
SK26S8-2	SK26S51-2	ZG26S51-2	.790	20.066	0.060	0.089	1.524	2.261	.020	.350	0.508	8.890
SK26S8-3	SK26S51-3	ZG26S51-3	.820	20.828	0.090	0.119	2.286	3.023	.050	.380	1.270	9.652
SK26S8-4	SK26S51-4	ZG26S51-4	.850	21.590	0.120	0.149	3.048	3.785	.080	.410	2.032	10.414
SK26S8-5	SK26S51-5	ZG26S51-5	.880	22.352	0.150	0.179	3.810	4.547	.110	.440	2.794	11.176
SK26S8-6	SK26S51-6	ZG26S51-6	.910	23.114	0.180	0.209	4.572	5.309	.140	.470	3.556	11.938
SK26S8-7	SK26S51-7	ZG26S51-7	.940	23.876	0.210	0.239	5.334	6.071	.170	.500	4.318	12.700
SK26S8-8	SK26S51-8	ZG26S51-8	.970	24.638	0.240	0.269	6.096	6.833	.200	.530	5.080	13.462
SK26S8-9	SK26S51-9	ZG26S51-9	1.000	25.400	0.270	0.299	6.858	7.595	.230	.560	5.842	14.224
SK26S8-10	SK26S51-10	ZG26S51-10	1.030	26.162	0.300	0.329	7.620	8.357	.260	.590	6.604	14.986
SK26S8-11	SK26S51-11	ZG26S51-11	1.060	26.924	0.330	0.359	8.382	9.119	.290	.620	7.366	15.748
SK26S8-12	SK26S51-12	ZG26S51-12	1.090	27.686	0.360	0.389	9.144	9.881	.320	.650	8.128	16.510
SK26S8-13	SK26S51-13	ZG26S51-13	1.120	28.448	0.390	0.419	9.906	10.643	.350	.680	8.890	17.272
SK26S8-14	SK26S51-14	ZG26S51-14	1.150	29.210	0.420	0.449	10.668	11.405	.380	.710	9.652	18.034
SK26S8-15	SK26S51-15	ZG26S51-15	1.180	29.972	0.450	0.479	11.430	12.167	.410	.740	10.414	18.796

* For SK213-1 Receptacles, add .120 to Min Grip. Note (1) ZG26S51 use stainless stud/Skytanium® cup. Note: CLoc®-CamLoc® grip charts are identical for 2600 Series parts. Physical dimensions are identical. See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK2600 Winged

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate





Replacements	Stainless Wing	Steel Wing
CamLoc®	2600-(x)SW	2600-(x)W
Lisi	1126014-(x)	1126010-(x)

Note: 2600 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

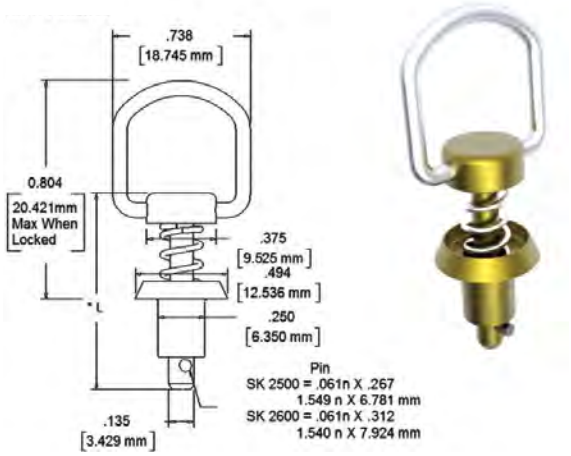
Winged 2600 Series Studs			Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
Steel Wing	Stainless Wing	Skytanium® Wing	Dec.	mm	Decimal		Millimeter		Decimal		Millimeter	
					Min	Max	Min	Max	Min	Max	Min	Max
SK2600-1W	SK2600-1SW	ZG2600-1W	.760	19.304	.030	.059	0.762	1.499	.020	.320	0.508	8.128
SK2600-2W	SK2600-2SW	ZG2600-2W	.790	20.066	.060	.089	1.524	2.261	.020	.350	0.508	8.890
SK2600-3W	SK2600-3SW	ZG2600-3W	.820	20.828	.090	.119	2.286	3.023	.050	.380	1.270	9.652
SK2600-4W	SK2600-4SW	ZG2600-4W	.850	21.590	.120	.149	3.048	3.785	.080	.410	2.032	10.414
SK2600-5W	SK2600-5SW	ZG2600-5W	.880	22.352	.150	.179	3.810	4.547	.110	.440	2.794	11.176
SK2600-6W	SK2600-6SW	ZG2600-6W	.910	23.114	.180	.209	4.572	5.309	.140	.470	3.556	11.938
SK2600-7W	SK2600-7SW	ZG2600-7W	.940	23.876	.210	.239	5.334	6.071	.170	.500	4.318	12.700
SK2600-8W	SK2600-8SW	ZG2600-8W	.970	24.638	.240	.269	6.096	6.833	.200	.530	5.080	13.462
SK2600-9W	SK2600-9SW	ZG2600-9W	1.000	25.400	.270	.299	6.858	7.595	.230	.560	5.842	14.224
SK2600-10W	SK2600-10SW	ZG2600-10W	1.030	26.162	.300	.329	7.620	8.357	.260	.590	6.604	14.986
SK2600-11W	SK2600-11SW	ZG2600-11W	1.060	26.924	.330	.359	8.382	9.119	.290	.620	7.366	15.748
SK2600-12W	SK2600-12SW	ZG2600-12W	1.090	27.686	.360	.389	9.144	9.881	.320	.650	8.128	16.510
SK2600-13W	SK2600-13SW	ZG2600-13W	1.120	28.448	.390	.419	9.906	10.643	.350	.680	8.890	17.272
SK2600-14W	SK2600-14SW	ZG2600-14W	1.150	29.210	.420	.449	10.668	11.405	.380	.710	9.652	18.034
SK2600-15W	SK2600-15SW	ZG2600-15W	1.180	29.972	.450	.479	11.430	12.167	.410	.740	10.414	18.796

* For SK213-1 Receptacles, add .120 to Min Grip. Note (1) ZG26S51 use stainless stud/Skytanium® cup. Note: CLoc®-CamLoc® grip charts are identical for 2600 Series parts. Physical dimensions are identical. See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK2600 Folding Ring

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate



Note: 2600 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Folding Ring 2600 Series		Stud Length (L)		SK212 Series Fixed Depth Receptacle Combined Panels				SK213-1* and -2 Series Adjustable Depth Combined Panels			
Stainless Folding Ring	Skytanium® Folding Ring	Dec.	mm	Decimal		Millimeter		Decimal		Millimeter	
				Min	Max	Min	Max	Min	Max	Min	Max
SK2600R1S	ZG2600R1	.825	20.955	.030	.059	0.762	1.499	.020	.320	0.508	8.128
SK2600R2S	ZG2600R2	.855	21.717	.060	.089	1.524	2.261	.020	.350	0.508	8.890
SK2600R3S	ZG2600R3	.885	22.479	.090	.119	2.286	3.023	.050	.380	1.270	9.652
SK2600R4S	ZG2600R4	.915	23.241	.120	.149	3.048	3.785	.080	.410	2.032	10.414
SK2600R5S	ZG2600R5	.945	24.003	.150	.179	3.810	4.547	.110	.440	2.794	11.176
SK2600R6S	ZG2600R6	.975	24.765	.180	.209	4.572	5.309	.140	.470	3.556	11.938
SK2600R7S	ZG2600R7	1.005	25.527	.210	.239	5.334	6.071	.170	.500	4.318	12.700
SK2600R8S	ZG2600R8	1.035	26.289	.240	.269	6.096	6.833	.200	.530	5.080	13.462
SK2600R9S	ZG2600R9	1.065	27.051	.270	.299	6.858	7.595	.230	.560	5.842	14.224
SK2600R10S	ZG2600R10	1.095	27.813	.300	.329	7.620	8.357	.260	.590	6.604	14.986
SK2600R11S	ZG2600R11	1.125	28.575	.330	.359	8.382	9.119	.290	.620	7.366	15.748
SK2600R12S	ZG2600R12	1.155	29.337	.360	.389	9.144	9.881	.320	.650	8.128	16.510
SK2600R13S	ZG2600R13	1.185	30.099	.390	.419	9.906	10.643	.350	.680	8.890	17.272
SK2600R14S	ZG2600R14	1.215	30.861	.420	.449	10.668	11.405	.380	.710	9.652	18.034
SK2600R15S	ZG2600R15	1.245	31.623	.450	.479	11.430	12.167	.410	.740	10.414	18.796

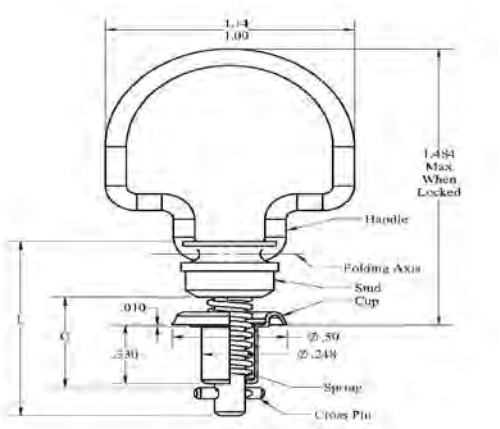
* For SK213-1 Receptacles, add .120 to Min Grip. Note (1) ZG26S51 use stainless stud/Skytanium® cup. Note: CLoc®-CamLoc® grip charts are identical for 2600 Series parts. Physical dimensions are identical. See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK26S22 Bail Handle

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate





Replacements	Stainless Bail	Steel Bail
CamLoc®	26S22-(x)B	26S22-(x)
Lisi	1126017	1126024-(x)

Note: 26S22 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Bail Handle 26S22 Series Studs			Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
Steel Bail Handle	Stainless Bail Handle	Skytanium® Bail Handle	Dec.	mm	Decimal		Millimeter		Decimal		Millimeter	
					Min	Max	Min	Max	Min	Max	Min	Max
SK26S22-1	SK26S22-1S	ZG26S22-1	0.930	23.622	.030	.059	0.762	1.499	.020	.320	0.508	8.128
SK26S22-2	SK26S22-2S	ZG26S22-2	0.960	24.384	.060	.089	1.524	2.261	.020	.350	0.508	8.890
SK26S22-3	SK26S22-3S	ZG26S22-3	0.990	25.146	.090	.119	2.286	3.023	.050	.380	1.270	9.652
SK26S22-4	SK26S22-4S	ZG26S22-4	1.020	25.908	.120	.149	3.048	3.785	.080	.410	2.032	10.414
SK26S22-5	SK26S22-5S	ZG26S22-5	1.050	26.670	.150	.179	3.810	4.547	.110	.440	2.794	11.176
SK26S22-6	SK26S22-6S	ZG26S22-6	1.080	27.432	.180	.209	4.572	5.309	.140	.470	3.556	11.938
SK26S22-7	SK26S22-7S	ZG26S22-7	1.110	28.194	.210	.239	5.334	6.071	.170	.500	4.318	12.700
SK26S22-8	SK26S22-8S	ZG26S22-8	1.140	28.956	.240	.269	6.096	6.833	.200	.530	5.080	13.462
SK26S22-9	SK26S22-9S	ZG26S22-9	1.170	29.718	.270	.299	6.858	7.595	.230	.560	5.842	14.224
SK26S22-10	SK26S22-10S	ZG26S22-10	1.200	30.480	.300	.329	7.620	8.357	.260	.590	6.604	14.986
SK26S22-11	SK26S22-11S	ZG26S22-11	1.230	31.242	.330	.359	8.382	9.119	.290	.620	7.366	15.748
SK26S22-12	SK26S22-12S	ZG26S22-12	1.260	32.004	.360	.389	9.144	9.881	.320	.650	8.128	16.510
SK26S22-13	SK26S22-13S	ZG26S22-13	1.290	32.766	.390	.419	9.906	10.643	.350	.680	8.890	17.272
SK26S22-14	SK26S22-14S	ZG26S22-14	1.320	33.528	.420	.449	10.668	11.405	.380	.710	9.652	18.034
SK26S22-15	SK26S22-15S	ZG26S22-15	1.350	34.290	.450	.479	11.430	12.167	.410	.740	10.414	18.796

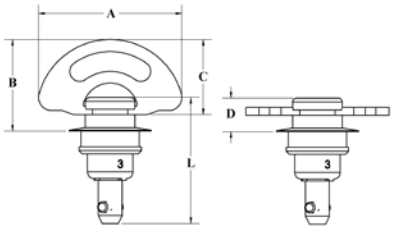
* For SK213-1 Receptacles, add .120 to Min Grip. Note: CLoc®-CamLoc® grip charts are identical for 26S22 Series parts.

CLoc® SK2600FW Folding Wing

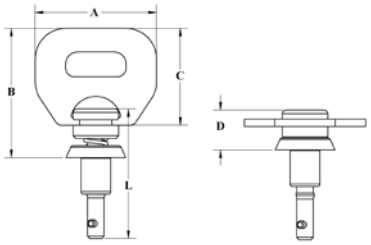
3 - Piece Series (Stud/Retainer - Locking Receptacle)



- Designed to Exceed NASM5591 Table II Performance. TSO Pending
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK2600 Style Folding Wing



SK2601 Style Folding Wing

For All Dash #'s	A		B(1)		C		D (1)	
	Decimal	mm	Decimal	mm	Decimal	mm	Decimal	mm
SK2600SFW	1.080	27.432	.760	19.304	.567	14.402	.375	9.525
SK2601SFW	1.000	25.400	.993	25.222	.800	20.320	.375	9.525

Note (1) B & D dimensions - Nominal locked position

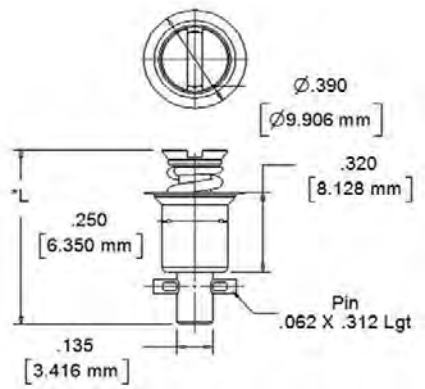
Note: 2600 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Folding Wing 2600 Series Studs		Total Stud Length (L)		**SK212 Series** Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels			
Stainless Standard Slot	Stainless Phillips	Decimal	Millimeter	Decimal		Millimeter		Decimal		Millimeter	
				Min	Max	Min	Max	Min	Max	Min	Max
SK2600-1SFW	SK2601-1SFW	0.920	23.368	.030	.059	0.762	1.499	.020	.320	0.508	8.128
SK2600-2SFW	SK2601-2SFW	0.950	24.130	.060	.089	1.524	2.261	.020	.350	0.508	8.890
SK2600-3SFW	SK2601-3SFW	0.980	24.892	.090	.119	2.286	3.023	.050	.380	1.270	9.652
SK2600-4SFW	SK2601-4SFW	1.010	25.654	.120	.149	3.048	3.785	.080	.410	2.032	10.414
SK2600-5SFW	SK2601-5SFW	1.040	26.416	.150	.179	3.810	4.547	.110	.440	2.794	11.176
SK2600-6SFW	SK2601-6SFW	1.070	27.178	.180	.209	4.572	5.309	.140	.470	3.556	11.938
SK2600-7SFW	SK2601-7SFW	1.100	27.940	.210	.239	5.334	6.071	.170	.500	4.318	12.700
SK2600-8SFW	SK2601-8SFW	1.130	28.702	.240	.269	6.096	6.833	.200	.530	5.080	13.462
SK2600-9SFW	SK2601-9SFW	1.160	29.464	.270	.299	6.858	7.595	.230	.560	5.842	14.224
SK2600-10SFW	SK2601-10SFW	1.190	30.226	.300	.329	7.620	8.357	.260	.590	6.604	14.986
SK2600-11SFW	SK2601-11SFW	1.220	30.988	.330	.359	8.382	9.119	.290	.620	7.366	15.748
SK2600-12SFW	SK2601-12SFW	1.250	31.750	.360	.389	9.144	9.881	.320	.650	8.128	16.510
SK2600-13SFW	SK2601-13SFW	1.280	32.512	.390	.419	9.906	10.643	.350	.680	8.890	17.272
SK2600-14SFW	SK2601-14SFW	1.310	33.274	.420	.449	10.668	11.405	.380	.710	9.652	18.034
SK2600-15SFW	SK2601-15SFW	1.340	34.036	.450	.479	11.430	12.167	.410	.740	10.414	18.796

* For SK213-1 Receptacles, add .120 to Min Grip. Note: CLoc®-CamLoc® grip charts are identical for 2600 Series

CLoc® SK2700 Slotted Flush Head Series

3 - Piece Series (Stud/Retainer - Locking Receptacle)



- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate



Replacements	Stainless Slotted	Steel Slotted
CamLoc®	2700-(x)S	2700-(x)
Lisi	1127003-(x)	1127000-(x)

Note: 2700 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

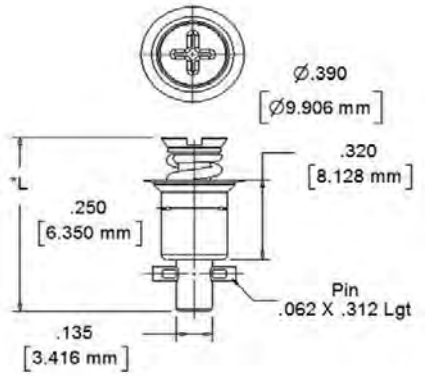
Flush Head 2700 Series Stud		Total Stud Length L		**SK212 Series** Fixed Depth Receptacle Combined Panel Thickness				**SK213-1 and -2 Series** Adjustable Depth Receptacle Combined Panel Thickness			
Steel Slot	Stainless Slot	Decimal	Millimeter	Decimal		Millimeter		Decimal		Millimeter	
				Min	Max	Min	Max	Min*	Max	Min	Max
SK2700-1	SK2700-1S	.610	15.494	.010	.029	0.254	0.737	.020	.270	0.508	6.858
SK2700-2	SK2700-2S	.640	16.256	.030	.059	0.762	1.499	.020	.300	0.508	7.620
SK2700-3	SK2700-3S	.670	17.018	.060	.089	1.524	2.261	.050	.330	1.270	8.382
SK2700-4	SK2700-4S	.700	17.780	.090	.119	2.286	3.023	.080	.360	2.032	9.144
SK2700-5	SK2700-5S	.730	18.542	.120	.149	3.048	3.785	.110	.390	2.794	9.906
SK2700-6	SK2700-6S	.760	19.304	.150	.179	3.810	4.547	.140	.420	3.556	10.668
SK2700-7	SK2700-7S	.790	20.066	.180	.209	4.572	5.309	.170	.450	4.318	11.430
SK2700-8	SK2700-8S	.820	20.828	.210	.239	5.334	6.071	.200	.480	5.080	12.192
SK2700-9	SK2700-9S	.850	21.590	.240	.269	6.096	6.833	.230	.510	5.842	12.954
SK2700-10	SK2700-10S	.880	22.352	.270	.299	6.858	7.595	.260	.540	6.604	13.716
SK2700-11	SK2700-11S	.910	23.114	.300	.329	7.620	8.357	.290	.570	7.366	14.478
SK2700-12	SK2700-12S	.940	23.876	.330	.359	8.382	9.119	.320	.600	8.128	15.240
SK2700-13	SK2700-13S	.970	24.638	.360	.389	9.144	9.881	.350	.630	8.890	16.002
SK2700-14	SK2700-14S	1.000	25.400	.390	.419	9.906	10.643	.380	.660	9.652	16.764
SK2700-15	SK2700-15S	1.030	26.162	.420	.449	10.668	11.405	.410	.690	10.414	17.526
SK2700-16	SK2700-16S	1.060	26.924	.450	.479	11.430	12.167	.440	.720	11.176	18.288

* For SK213-1 Series Receptacles - Add .120 to min thickness (shorter barrel) Note: CLoc®-CamLoc® grip charts are not identical for 2700 Series parts. Physical dimensions are identical. Note: See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK2700 Phillips Flush Head Series

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300* Lbs Plus Ultimate





Replacements	Stainless Phillips	Steel Phillips
CamLoc®	27S3-(x)S	27S3-(x)
Lisi	1127009-(x)	1127004-(x)

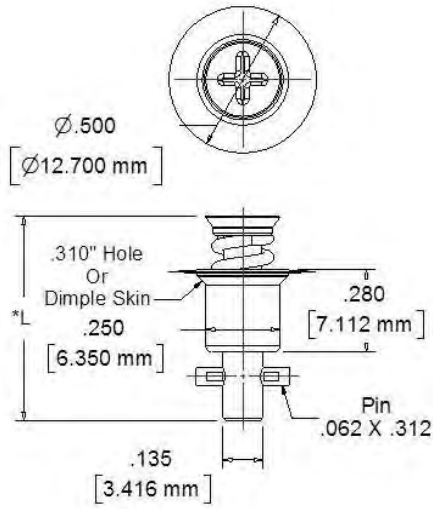
Note: 2700 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Flush Head 2700 Series Stud		Total Stud Length L		**SK212 Series** Fixed Depth Receptacle Combined Panel Thickness				**SK213-1 and -2 Series** Adjustable Depth Receptacle Combined Panel Thickness			
Steel Phillips	Stainless Phillips	Decimal	Millimeter	Decimal		Millimeter		Decimal		Millimeter	
				Min	Max	Min	Max	Min*	Max	Min	Max
SK27S3-1	SK27S3-1S	.610	15.494	.010	.029	0.254	0.737	.020	.270	0.508	6.858
SK27S3-2	SK27S3-2S	.640	16.256	.030	.059	0.762	1.499	.020	.300	0.508	7.620
SK27S3-3	SK27S3-3S	.670	17.018	.060	.089	1.524	2.261	.050	.330	1.270	8.382
SK27S3-4	SK27S3-4S	.700	17.780	.090	.119	2.286	3.023	.080	.360	2.032	9.144
SK27S3-5	SK27S3-5S	.730	18.542	.120	.149	3.048	3.785	.110	.390	2.794	9.906
SK27S3-6	SK27S3-6S	.760	19.304	.150	.179	3.810	4.547	.140	.420	3.556	10.668
SK27S3-7	SK27S3-7S	.790	20.066	.180	.209	4.572	5.309	.170	.450	4.318	11.430
SK27S3-8	SK27S3-8S	.820	20.828	.210	.239	5.334	6.071	.200	.480	5.080	12.192
SK27S3-9	SK27S3-9S	.850	21.590	.240	.269	6.096	6.833	.230	.510	5.842	12.954
SK27S3-10	SK27S3-10S	.880	22.352	.270	.299	6.858	7.595	.260	.540	6.604	13.716
SK27S3-11	SK27S3-11S	.910	23.114	.300	.329	7.620	8.357	.290	.570	7.366	14.478
SK27S3-12	SK27S3-12S	.940	23.876	.330	.359	8.382	9.119	.320	.600	8.128	15.240
SK27S3-13	SK27S3-13S	.970	24.638	.360	.389	9.144	9.881	.350	.630	8.890	16.002
SK27S3-14	SK27S3-14S	1.000	25.400	.390	.419	9.906	10.643	.380	.660	9.652	16.764
SK27S3-15	SK27S3-15S	1.030	26.162	.420	.449	10.668	11.405	.410	.690	10.414	17.526
SK27S3-16	SK27S3-16S	1.060	26.924	.450	.479	11.430	12.167	.440	.720	11.176	18.288

* For SK213-1 Series Receptacles - Add .120 to min thickness (shorter barrel) Note: CLoc®-CamLoc® grip charts are not identical for 2700 Series parts. Physical dimensions are identical. Note: See page 22 for plating options and part# suffix. Tested to 600 lbs. Skybolt® stainless CLoc® testing exceeds NASM5591 standards for tensile/shear and endurance.

CLoc® SK2800 Flush Head Series

3 - Piece Series (Stud/Retainer - Locking Receptacle)



- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK28S3
ZG28S3



SK2800



SK28T3
ZG28T3

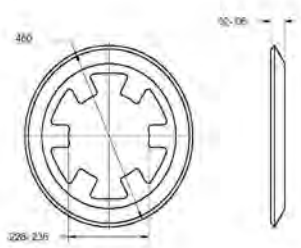
Note: 2800 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

Flush Head 2800 Series Studs				Total Stud Length (L)		SK212 Series Fixed Depth Receptacle Combined Panels				SK213-1* and -2 Series Adjustable Depth Combined Panels			
Stainless Standard Slot	Stainless Phillips	Skytanium® Phillips (2)	Skytanium® #15 Torx (3)	Dec	mm	Decimal		Millimeter		Decimal		Millimeter	
						Min	Max	Min	Max	Min	Max	Min	Max
SK2800-1S	SK28S3-1S	ZG28S3-1	ZG28T3-1	.610	15.494	.010	.029	0.254	0.737	.020	.270	0.508	6.858
SK2800-2S	SK28S3-2S	ZG28S3-2	ZG28T3-2	.640	16.256	.030	.059	0.762	1.499	.020	.300	0.508	7.620
SK2800-3S	SK28S3-3S	ZG28S3-3	ZG28T3-3	.670	17.018	.060	.089	1.524	2.261	.050	.330	1.270	8.382
SK2800-4S	SK28S3-4S	ZG28S3-4	ZG28T3-4	.700	17.780	.090	.119	2.286	3.023	.080	.360	2.032	9.144
SK2800-5S	SK28S3-5S	ZG28S3-5	ZG28T3-5	.730	18.542	.120	.149	3.048	3.785	.110	.390	2.794	9.906
SK2800-6S	SK28S3-6S	ZG28S3-6	ZG28T3-6	.760	19.304	.150	.179	3.810	4.547	.140	.420	3.556	10.668
SK2800-7S	SK28S3-7S	ZG28S3-7	ZG28T3-7	.790	20.066	.180	.209	4.572	5.309	.170	.450	4.318	11.430
SK2800-8S	SK28S3-8S	ZG28S3-8	ZG28T3-8	.820	20.828	.210	.239	5.334	6.071	.200	.480	5.080	12.192
SK2800-9S	SK28S3-9S	ZG28S3-9	ZG28T3-9	.850	21.590	.240	.269	6.096	6.833	.230	.510	5.842	12.954
SK2800-10S	SK28S3-10S	ZG28S3-10	ZG28T3-10	.880	22.352	.270	.299	6.858	7.595	.260	.540	6.604	13.716
SK2800-11S	SK28S3-11S	ZG28S3-11	ZG28T3-11	.910	23.114	.300	.329	7.620	8.357	.290	.570	7.366	14.478
SK2800-12S	SK28S3-12S	ZG28S3-12	ZG28T3-12	.940	23.876	.330	.359	8.382	9.119	.320	.600	8.128	15.240
SK2800-13S	SK28S3-13S	ZG28S3-13	ZG28T3-13	.970	24.638	.360	.389	9.144	9.881	.350	.630	8.890	16.002
SK2800-14S	SK28S3-14S	ZG28S3-14	ZG28T3-14	1.000	25.400	.390	.419	9.906	10.643	.380	.660	9.652	16.764
SK2800-15S	SK28S3-15S	ZG28S3-15	ZG28T3-15	1.030	26.162	.420	.449	10.668	11.405	.410	.690	10.414	17.526
SK2800-16S	SK28S3-16S	ZG28S3-16	ZG28T3-16	1.060	26.924	.450	.479	11.430	12.167	.440	.720	11.176	18.288

* For SK213-1 Series Receptacles - Add .120 to min thickness (shorter barrel) Note: CLoc®-CamLoc® grip charts are not identical for 2800 Series parts. Physical dimensions are identical. Note (2) ZG28S3 use stainless stud/Skytanium® cup. (3) Skytanium® stud/cup Note: See page 22 for plating options and part# suffix

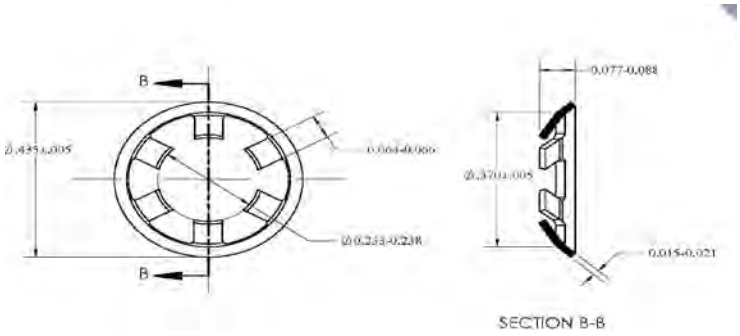
Skybolt® CLoc® 2000 Series Retainers

SK2600-LW (Steel) SK2600-LWS (Stainless)



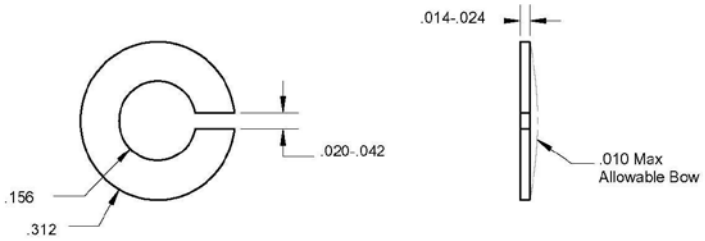
Designed as a general purpose retainer. Will not allow studs to retract when
unlocked. Install with SK-T26 Tool. Check that all studs are properly fitted before installing retainer.

SK26S5-1 (Steel) SK27S5-1S (Stainless)



Designed for SK2700 or SK2800 Flush Studs installed in a thin dimpled panel. Will not allow studs to retract when unlocked. Install with SK-T26 Tool. Check that all studs are properly fitted before installing retainer.

SK2600-SW2 (Steel) SK2600-SW (Stainless)



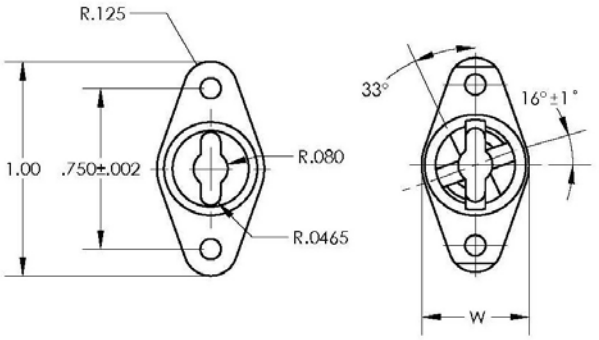
Designed for a curved panel application that requires studs to retract when unlocked. They will not function with any 2700 or 2800 Series Studs with oversized drilled holes for the cup dimple. They will only work with .257 holes (after dimpling panel) or a countersunk panel with .257 hole. With pliers, bend open at the spilt; twist washer around stud crosspin; bend to close.

Skybolt®	CamLoc®	Lisi	Material	Finish	Weight Lbs/100
SK2600-LW	2600-LW	1127700	Carbon Steel 1070-1095 ASTM A682/A684	Cad QQ-P-416, Type II, Class 2	0.04
SK2600-LWS	2600-LW-7	1127746	Stainless 302 ASTM-A666	Passivate AMS2700	0.04
SK27S5-1	27S5-1	1127301	Carbon Steel 1070-1095 ASTM A682/A684	Cad QQ-P-416, Type II, Class 2	0.04
SK27S5-1S	None	None	Stainless 302 ASTM-A666	Passivate AMS2700	0.04
SK2600-SW2	2600-SW2	1127723	Carbon Steel 1070-1095 ASTM A682/A684	Cad QQ-P-416, Type II, Class 2	0.03
SK2600-SW	2600-SW	1127722	Stainless 302 ASTM-A666	Passivate AMS2700	0.03

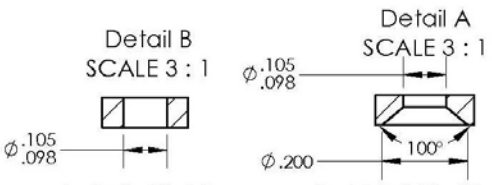
CLoc® 2000 Series Rivet Receptacles

3 - Piece Series (Stud/Retainer - Locking Receptacle)

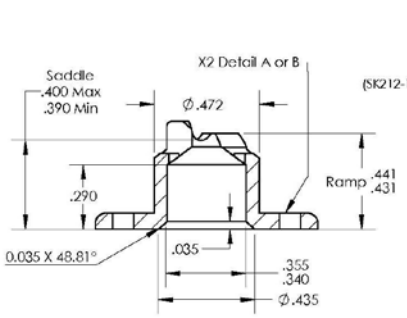
Standard SK212 Fixed Depth Receptacles TSO-C148



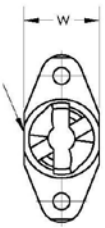
SK212-12,12N



SK212-12D,12ND



SK212-12



SK212-12N



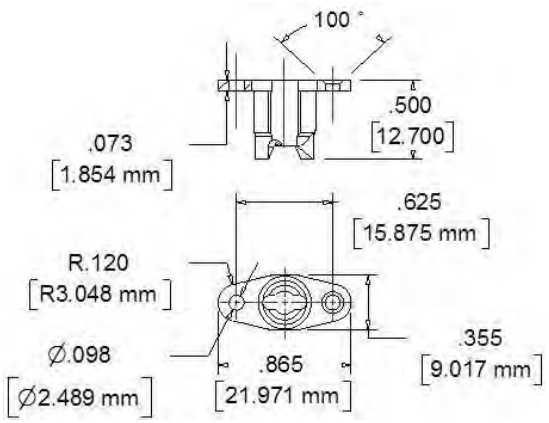
Part #			Material	Type/Finish	Rivet Size	Weight
Skybolt®	CamLoc®	Lisi				
SK212-12	212-12	1127701	Metal	Cast/Cad QQ-P-416	3/32	.010/4.5g
SK212-12D	212-12D	1127702	Metal	Cast/Cad QQ-P-416	3/32	.010/4.5
SK212-12N	212-12N	1127726	Metal	Cast/Cad QQ-P-416	3/32	.010/4.5
SK212-12ND	212-12ND	1127729	Metal	Cast/Cad QQ-P-416	3/32	.010/4.5
SK212-12S	212-12S	1127711	Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12SD	212-12SD	1127712	Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12NS			Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12NSD			Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12ACA			Alum380	Cast/None	3/32	.0040/1.9
SK212-12A8CA	None	1127709A	Alum380	Cast/None	1/8	.0040/1.9
SK212-12A	212-12A	1127901A	Alum6061	Machined/None	3/32	.0035/1.7
SK212-12A8			Alum6061	Machined/None	1/8	.0035/1.7
SK212-12AC			Alum6061	Anti Chafe	3/32	.0040/1.8
SK212-12AD	212-12AD	1127708	Alum6061	Machined/None	3/32	.0035/1.7
SK212-12SENC			Stain303	Encapsulated	3/32	.0105/4.8
SK21R17-1	None	1127733	Stain304	Formed	3/32	.0040/1.9
SK21R17-18			Stain304	Formed	1/8	.0040/1.9
SK21R17-2	None	1127734	Stain304	Formed/Dimpled	3/32	.0040/1.9
SK21R17-6N	26R6-6BB	1127741	Steel	Formed/Narrow	3/32	.0040/1.9

Call for other styles in stock

CLoc® 2000 Series Rivet Receptacles

3 - Piece Series (Stud/Retainer - Locking Receptacle)

Standard SK212 Fixed Depth Receptacles TSO-C148



SK212-10

Part #	Material	Type/Finish	Rivet Size	Weight
SK212-10	Steel	Machined/Zinc	3/32	.0100/4.5g
SK212-10A	Alum6061	Machined/None	3/32	.0030/1.4
SK212-10AB	Alum6061	Machined/Anod	3/32	.0030/1.4
SK212-10S	Stain303	Machined/None	3/32	.0100/4.5

Require 2500 series studs

MIL-A-8625 Anodizing

Standard Anodizing MIL-A-8625, Type II, Class 1		
Finish	Add Part #Suffix	Example
Clear	A	ZG2500-4A Standard anodizing - Clear
Standard Anodizing MIL-A-8625, Type II, Class 2		
Finish	Add Part #Suffix	Example
Black	A1BLK	ZG2500-4A1BLK Standard anodizing - Black
Red	A1RED	ZG2500-4A1RED Standard anodizing - Red

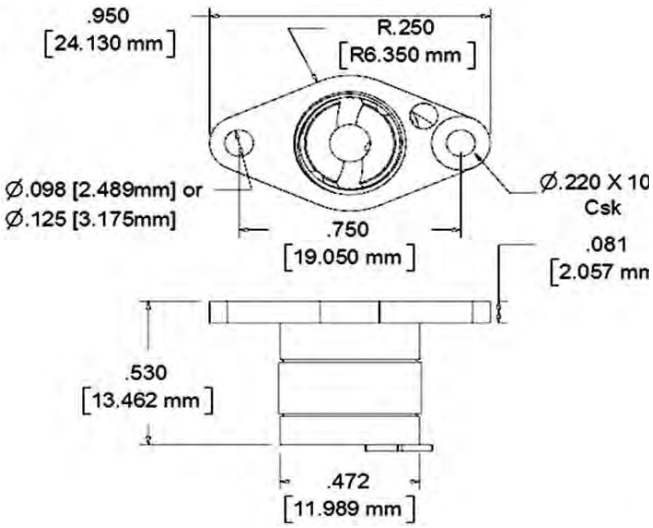
Hard Anodizing MIL-8625, Type III, Class 1		
Finish	Add Part #Suffix	Example
Clear	B	ZG2500-4B Hard anodizing - Clear
Hard Anodizing MIL-8625, Type III, Class 2		
Finish	Add Part #Suffix	Example
Black	B1BLK	ZG2500-4B1BLK Hard anodizing - Black
Red	B1RED	ZG2500-4B1RED Hard anodizing - Red

CLoc® 2000 Series Rivet Receptacles

3 - Piece Series (Stud/Retainer - Locking Receptacle)

Standard SK213 Adjustable Receptacles TSO-C148

SK213 Adjustable Receptacles







Part #	Material	Type/Finish	Rivet Size	Weight	Length 'L'
SK213-1	Skytanium®	Machined/None	3/32	.0070/3.2	.410
SK213-1D	Skytanium®	Machined/None	3/32	.0070/3.2	.410
SK213-1S	Stain303	Machined/None	3/32	.0155/7.1	.410
SK213-1SD	Stain303	Machined/None	3/32	.0155/7.1	.410
SK213-2	Skytanium®	Machined/None	3/32	.0070/3.2	.530
SK213-2D	Skytanium®	Machined/None	3/32csk	.0070/3.2	.530
SK213-26D	Skytanium®	Machined/None	3/32csk	.0070/3.2	.530
SK213-28	Skytanium®	Machined/None	1/8	.0070/3.2	.530
SK213-28D	Skytanium®	Machined/None	1/8csk	.0070/3.2	.530

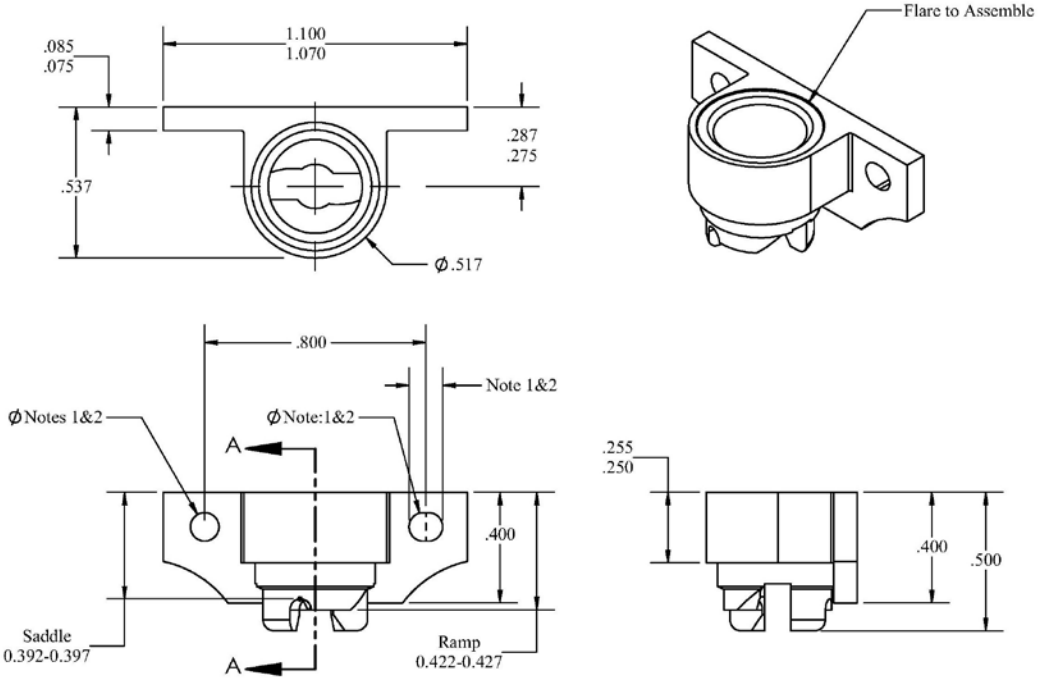
Note: SK213-26 has 11/16 Rivet Spacing

CLoc® 26R Series Side Mount Receptacles

Use with any 2000 Series Studs
6061 Aluminum - Machined - Anodized Black
4-Hole and 2-Hole - 3/32 Rivet Holes

SK26R3-1 Shown (Before Hard Anodizing)





Part #			Material	Rivet
Skybolt®	Cam-Loc®	Lisi		
SK26R1-1	26R1-1	1127727	6061 Aluminum - Anodized	3/32 - 4 Hole
SK26R1-5	26R1-5		6061 Aluminum - Anodized	3/32 - 4 Hole

Note: To calculate grip range for a given stud, use standard grip charts but there is no support panel to calculate. The Grip is the thickness of the outer panel plus any gasket material used.

CLoc® 2000 Series Floating Receptacles

SK201 and SK203 Floating Receptacles

- Rivet - 3/32 and Bonded Versions
- Fixed Depth and Adjustable Versions
- Float +/- .050 (x and y)
- Removable - Receptacle Insert
- Cage Dimensions - 1.020 x .630
- Panel Overlap - Max Float - Desired .650
- Easy install Insert Locking Clip - Easy to remove; easy to install/replace

SK201 Floating Receptacle - Fixed

Fixed Depth Insert	Cage	Insert	Rivet/ Spacing	Height	Lbs	Grams	Grip(1) SK28S3-2	Grip(1) SK26S51-2
SK201C01	Stainless	Stainless	Bonded	.490	.0180	8.2	.030-.059	.060-.089
SK201C21	Stainless	Stainless	3/32x.75	.490	.0180	8.2	.030-.059	.060-.089
SK201C01A	Stainless	Aluminum	Bonded	.490	.0110	5.9	.030-.059	.060-.089
SK201C21A	Stainless	Aluminum	3/32x.75	.490	.0110	5.9	.030-.059	.060-.089
SK201A01A	Aluminum	Aluminum	Bonded	.490	.0095	4.3	.030-.059	.060-.089
SK201A21A	Aluminum	Aluminum	3/32x.75	.490	.0095	4.3	.030-.059	.060-.089

Note 1: Add or subtract .030 to grip values per dash number increase or decrease



SK203 Floating Receptacle - Adjustable

Adjustable Depth Insert	Cage	Insert	Rivet/ Spacing	Height	Lbs	Grams	Grip(1) SK28S3-2	Grip(1) SK26S51-2
SK203C01	Stainless	Stainless	Bonded	.540	.0260	11.7	.020-.320	.020-.350
SK203C21	Stainless	Stainless	3/32x.75	.540	.0260	11.7	.020-.320	.020-.350
SK203C01A	Stainless	Aluminum	Bonded	.540	.0200	9.1	.020-.320	.020-.350
SK203C21A	Stainless	Aluminum	3/32x.75	.540	.0200	9.1	.020-.320	.020-.350
SK203A01A	Aluminum	Aluminum	Bonded	.540	.0110	8.16	.020-.320	.020-.350
SK203A21A	Aluminum	Aluminum	3/32x.75	.540	.0110	8.16	.020-.320	.020-.350

Note 1: Add or subtract .030 to grip values per dash number increase or decrease



SK201T2 and SK203T2 Bond - Gummy Worm
Secures and seals insert for bond setup and cure using traditional Gummy Worm - Reusable.

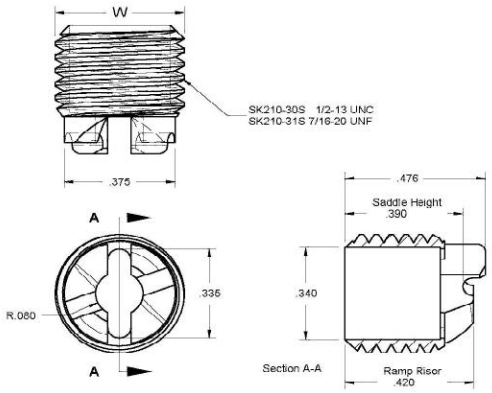
See Bonding Pages 2-4



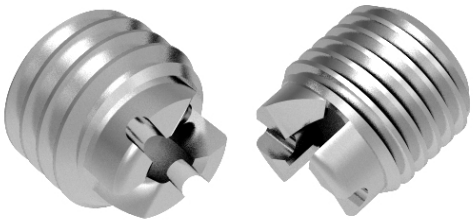
CLoc® 2000 Series Threaded Receptacles

SK210/230 Series Rivetless Receptacles - Adjustable Depth

- Excellent for any Non-Blind Mounting Application
- Ideal for Marine and Industrial Applications
- Adjustable Depth
- Use thread locking compound to secure insert



Part #	Stud Series	Material	Thread-Type	'W'	Alum,Brass,Plastic Drill Hole To(2)	Steel,SS,Iron Drill Hole To	Tap	Minimum (1) Inner Panel
SK209-31S	2500	303 Stainless	3/8-24	.375	21/64	Q	3/8-24	.250 Min
SK210-30A	2500	6061 Aluminum	3/8-16	.375	9/32	5/16	Use with SK2000-150 or -312 Nutsert	
SK210-30S	2500	303 Stainless	3/8-16	.375	9/32	5/16	Use with SK2000-150 or -312 Nutsert	
SK210-31A	2600/2700	6061 Aluminum	7/16-20	.438	11/32	25/64	7/16-20	.250 Min
SK210-31S	2600/2700	303 Stainless	7/16-20	.438	11/32	25/64	7/16-20	.250 Min
SK230-16A*	2600/2700	6061 Aluminum	3/8-16 Ext Nose	.375	9/32	5/16	Use with SK2000-150 or -312 Nutsert	
SK230-16S*	2600/2700	303 Stainless	3/8-16 Ext Nose	.375	9/32	5/16	Use with SK2000-150 or -312 Nutsert	



All series - In addition to the charted value of .476, allow up to .580 clearance to accommodate the stud nose through its full locking action

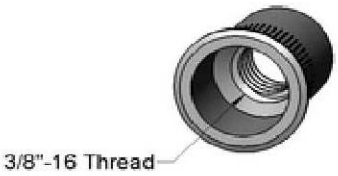
Stud Grip Chart (Grip range increased based on insert setting)			
Protruding Stud (3)	Outer Panel Thickness	Flush Stud (3)	Outer Panel Thickness
SK26S51-1	.075-.105	SK27S3-1S	.010-.019
SK26S51-2	.105-.135	SK27S3-2S	.020-.049
SK26S51-3	.135-.165	SK27S3-3S	.050-.079
SK26S51-4	.165-.195	SK27S3-4S	.080-.109
SK26S51-5	.195-.225	SK27S3-5S	.110-.139
SK26S51-6	.225-.255	SK27S3-6S	.140-.169
SK26S51-7	.255-.285	SK27S3-7S	.170-.199
SK26S51-8	.285-.315	SK27S3-8S	.200-.229
SK26S51-9	.315-.345	SK27S3-9S	.230-.259
SK26S51-10	.345-.375	SK27S3-10S	.260-.289
SK26S51-11	.375-.405	SK27S3-11S	.290-.319

(3) Charts also apply to all SK2600 Series and SK2700/2800 Series Studs.

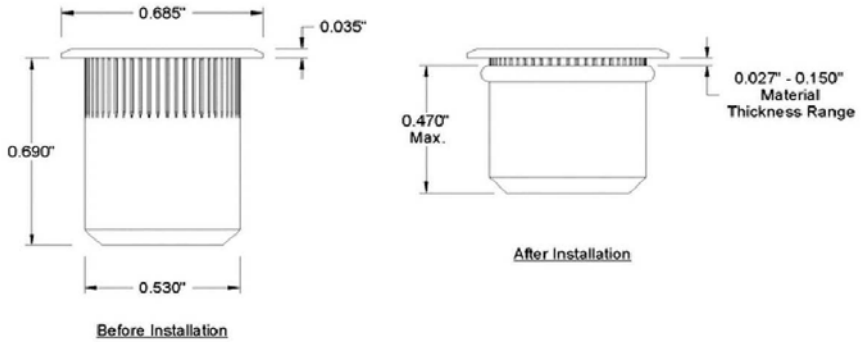
CLoc® 2000 Series Nutserts

SK2000-150 and SK2000-312 Nutserts

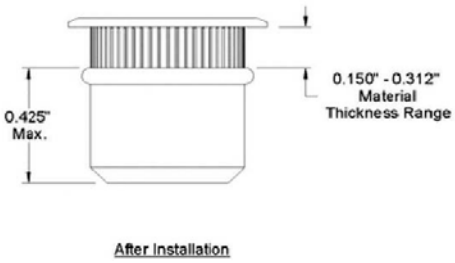
- Excellent for any Blind or Non-Blind Mounting Application
- Ideal Industrial Applications
- Use thread locking compound to secure insert
- Use SK210-30S or SK230-16S Inserts - U.S. Patent 10,087,964



SK2000-150



SK2000-312



Part #	Material	Hole Size	Grip	Body Dia	Length	Flange Dia	Thickness	L (Protrusion) Installed (max)
SK2000-150	Steel-Yellow Zinc	17/32-9/16	.027-.150	.530	.690	.685	.035	.470
SK2000-150A	Aluminum	17/32-9/16	.027-.150	.530	.690	.685	.035	.470
SK2000-312	Steel-Yellow Zinc	17/32-9/16	.150-.312	.530	.805	.685	.035	.425

SK2000-NST Nutsert Installation Tool

Use 271 Red Locktite® to lock threads when properly adjusted. Warning: Thread lockers set up in approximately 5 minutes. 2600 Series: Adjust insert so that the face of the cup is flush with the bottom of the stud head. 2700/2800 Series: Set insert so that the stud head is no deeper than flush with the face of the cup. If insert is set too deep with the stud locked, you will not be able to unlock the stud after 5 minutes.

Stud Grip Chart - SK210-30 Insert			
Protruding Stud (4)	Outer Panel Thickness	Flush Stud (4)	Outer Panel Thickness
SK26S51-1	.020-.300	SK27S3-1S	.020-.170
SK26S51-2	.020-.330	SK27S3-2S	.020-.200
SK26S51-3	.130-.360	SK27S3-3S	.020-.230
SK26S51-4	.160-.360	SK27S3-4S	.100-.260
SK26S51-5	.190-.420	SK27S3-5S	.130-.290
SK26S51-6	.220-.450	SK27S3-6S	.160-.320
SK26S51-7	.250-.480	SK27S3-7S	.190-.350
SK26S51-8	.280-.510	SK27S3-8S	.220-.380
SK26S51-9	.310-.540	SK27S3-9S	.250-.410
SK26S51-10	.340-.570	SK27S3-10S	.280-.440
SK26S51-11	.370-.600	SK27S3-11S	.310-.470

Stud Grip Chart - SK230-16 Insert			
Protruding Stud (4)	Outer Panel Thickness	Flush Stud (4)	Outer Panel Thickness
SK26S51-1	.390-.600	SK27S3-1S	.310-.470
SK26S51-2	.390-.630	SK27S3-2S	.340-.500
SK26S51-3	.430-.660	SK27S3-3S	.370-.530
SK26S51-4	.460-.690	SK27S3-4S	.400-.560
SK26S51-5	.490-.720	SK27S3-5S	.430-.590
SK26S51-6	.520-.750	SK27S3-6S	.460-.620
SK26S51-7	.550-.780	SK27S3-7S	.490-.650
SK26S51-8	.580-.810	SK27S3-8S	.520-.680
SK26S51-9	.610-.840	SK27S3-9S	.550-.710
SK26S51-10	.640-.870	SK27S3-10S	.580-.740
SK26S51-11	.670-.900	SK27S3-11S	.610-.770

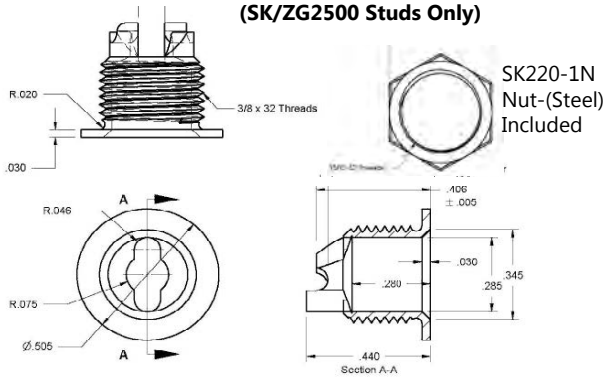
(4) Charts also apply to all SK2600 Series and SK2700/2800 Series Studs.

CLoc® 2000 Series Threaded Receptacles

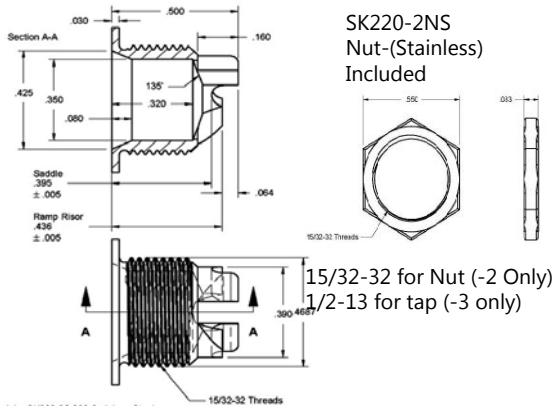
SK220 Series Rivetless Receptacles - Straight Flange

- Excellent for any Non-Blind Mounting Application
- Non-Adjustable Depth
- Use thread locking compound to secure nut

SK220-1 Series
(SK/ZG2500 Studs Only)



SK220-2 and SK220-3 Series



SK220-2NS
Nut-(Stainless)
Included

15/32-32 for Nut (-2 Only)
1/2-13 for tap (-3 only)

Part #	Replaces	Material	Thread-Type	'W'	Drill Hole To	Tap	Min-Max Inner Panel
SK220-1A (1)		6061 Aluminum	3/8-32 with Backing Nut	.370	3/8	NA	.010-.250
SK220-1S (1)		303 Stainless	3/8-32 with Backing Nut	.370	3/8	NA	.010-.250
SK220-2A		6061 Aluminum	15/32-32 with Backing Nut	.472	15/32	NA	.010-.250
SK220-2S	SK211-2S	303 Stainless	Does not include Backing Nut	.472	15/32	NA	.010-.250
SK220-3S (2)		303 Stainless	1/2-13 Tapped (No Backing Nut)	.500	13/32 (3)	1/2-13	.500 Min
SK220-1N		Steel	3/8-32 with Steel Backing Nut	.500	3/8	NA	NA
SK220-1NS		303 Stainless	15/32-32 SS Backing Nut	.500	13/32	NA	NA

(1) Min Total Thickness .045. (2) Coarse thread for tapped holes in wood/plasic/composite structures. (3) Drill Undersize.

SK220-1 Stud Grip Chart

Protruding Stud (4)	Outer Panel Thickness	Flush Stud (4)	Outer Panel Thickness
SK25S51-1	.075-.104	SK25S3-1S	.045-.074
SK25S51-2	.105-.134	SK25S3-2S	.075-.104
SK25S51-3	.135-.164	SK25S3-3S	.105-.134
SK25S51-4	.165-.194	SK25S3-4S	.135-.164
SK25S51-5	.195-.224	SK25S3-5S	.165-.194
SK25S51-6	.225-.254	SK25S3-6S	.195-.224
SK25S51-7	.255-.284	SK25S3-7S	.225-.254
SK25S51-8	.285-.314	SK25S3-8S	.255-.284
SK25S51-9	.315-.344	SK25S3-9S	.285-.314
SK25S51-10	.345-.374	SK25S3-10S	.315-.344
SK25S51-11	.375-.404	SK25S3-11S	.345-.374

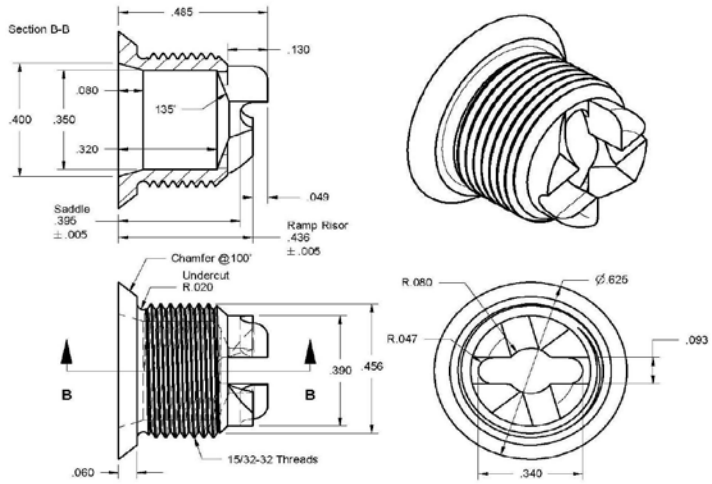
SK220-2 Stud Grip Chart

Protruding Stud (4)	Outer Panel Thickness	Flush Stud (4)	Outer Panel Thickness
SK26S51-1	.030-.059	SK28S3-1S	.010-.019
SK26S51-2	.060-.089	SK28S3-2S	.020-.049
SK26S51-3	.090-.119	SK28S3-3S	.050-.079
SK26S51-4	.120-.149	SK28S3-4S	.080-.109
SK26S51-5	.150-.179	SK28S3-5S	.110-.139
SK26S51-6	.180-.209	SK28S3-6S	.140-.169
SK26S51-7	.210-.239	SK28S3-7S	.170-.199
SK26S51-8	.240-.269	SK28S3-8S	.200-.229
SK26S51-9	.270-.299	SK28S3-9S	.230-.259
SK26S51-10	.300-.329	SK28S3-10S	.260-.289
SK26S51-11	.330-.359	SK28S3-11S	.290-.319

CLoc® 2000 Series Threaded Receptacles

SK221 Series Rivetless Receptacles - Countersunk Flange

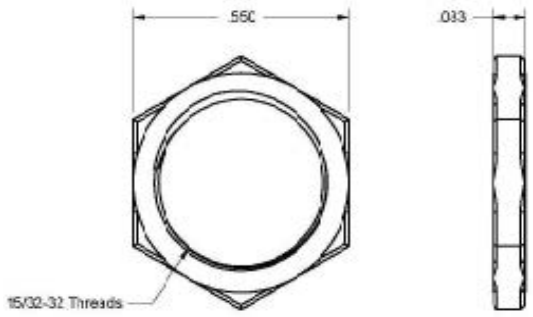
- Excellent for any Non-Blind Mounting Application
- Non-Adjustable Depth
- Use thread locking compound to secure nut



Notes: (1) Drill slightly undersized for "tight" thread tap.

Part #	Replaces	Material	Thread-Type	'W'	Drill Hole To	Tap	Min-Max Inner Panel
SK221-2AN	SK211-32A	6061 Aluminum	15/32-32 with Backing Nut	.472	15/32	NA	.090-.250
SK221-2SN		303 Stainless	15/32-32 with Backing Nut	.472	15/32	NA	.090-.250
SK221-3S*	SK210-2S	303 Stainless	1/2-13 Tapped (No Backing Nut)	.500	13/32 (1)	1/2-13	.500 Min

* Coarse thread for tapped holes in wood/plasic/composite structures



SK220-2NS Nut- Stainless
(Included with SK221-2 Series Receptacles)

Stud Grip Chart			
Protruding Stud (4)	Outer Panel Thickness	Flush Stud (4)	Outer Panel Thickness
SK26S51-1	.030-.059	SK28S3-1S	.010-.019
SK26S51-2	.060-.089	SK28S3-2S	.020-.049
SK26S51-3	.090-.119	SK28S3-3S	.050-.079
SK26S51-4	.120-.149	SK28S3-4S	.080-.109
SK26S51-5	.150-.179	SK28S3-5S	.110-.139
SK26S51-6	.180-.209	SK28S3-6S	.140-.169
SK26S51-7	.210-.239	SK28S3-7S	.170-.199
SK26S51-8	.240-.269	SK28S3-8S	.200-.229
SK26S51-9	.270-.299	SK28S3-9S	.230-.259
SK26S51-10	.300-.329	SK28S3-10S	.260-.289
SK26S51-11	.330-.359	SK28S3-11S	.290-.319

CLoc® SK4000 and ZG4000 Series

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

1050 LB Ultimate Tensile Strength (Steel and CLoc® Stainless) Designed to Exceed NASM5591 Table II Performance
1050 LB Ultimate Tensile Strength (ZG4000 Skytanium®) TSO-C148 Approved. SK215/245A will not meet NASM5591 endurance.

STUDS

3/8" Head Diameter - All Studs

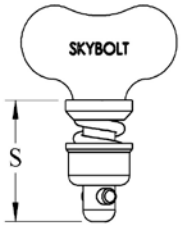
Note: Stud sizes thru -15 are self retaining in grommet. Studs require 4P3 Pliers to insert thru grommet.

Stud Dash Number Stamped in Head



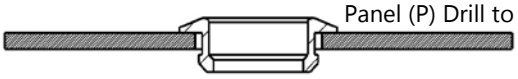
40S5 Steel
SK40S5-( )S Stainless

4002 Steel*
SK4002-( )S Stainless (Collared Slot)
ZG4002 ( ) Skytanium® (Collared Slot)



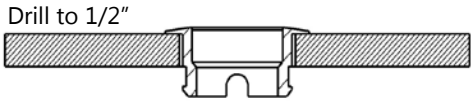
4002-( )W Steel
SK4002-( )SW Stainless

GROMMETS



Standard Plus Flush Grommets

SK-N2 Steel
SK-N2S Stainless
SK-N Steel
SK-NS Stainless
SK-O Steel
SK-OS Stainless
ZG-094 Skytanium®



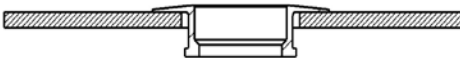
Extended Depth Grommets

SK-O18 Steel
SK-O316 Steel
SK-O14 Steel
SK-O12 Steel
SK-O18S Stainless
SK-O316S Stainless
SK-O14S Stainless
SK-O12S Stainless



Standard Flush Grommets

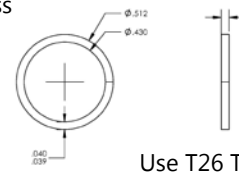
SK-G Steel
SK-GS Stainless
SK-H Steel
SK-HS Stainless



Wide Flange Grommets

SK-N3 Steel
SK-N3S Stainless
SK-N316S Stainless
ZG-094LA Skytanium®
ZG-125LA Skytanium®
ZG-187LA Skytanium®

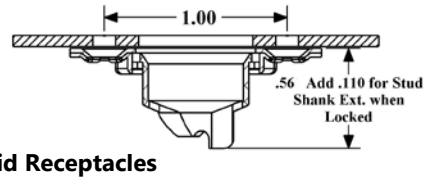
Grommet Retainers



R4G Grommet Retainer
R4T High Shear Grommet Retainer
SK-R531 Backing Washer
(for Oversize Holes)

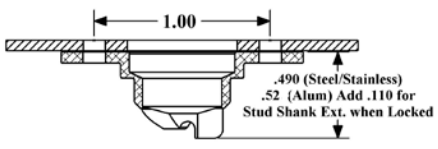
Use T26 Tool to install Retainers
Drill center hole to 5/8"
1/8" Rivets

RECEPTACLES



Rigid Receptacles

SK214-16	Fixed Depth Steel/Stainless
SK214-16D	Fixed Depth Steel/Stainless Countersunk
SK214-16ENC	Fixed Depth Steel/Stainless Encapsulated
SK214-16DENC	Fixed Depth Steel/Stainless Encap/Csk
SK40R17-1	Fixed Depth Lightweight Stainless
SK40R17-2	Fixed Depth Lightweight Stainless/Csk
SK215 Series	Adjustable Depth



Floating Receptacles

SK244-16	Fixed Depth Steel/Stainless
SK244-16D	Fixed Depth Steel/Stainless Csk
SK244-161	Fixed Depth Steel/Stainless Removal Insert
SK245-16	Adjustable Depth Steel/Stainless
SK245-16D	Adjustable Depth Steel/Stainless Csk
SK245-161	Fixed Depth Steel/Stainless Removal Insert

CLoc® 4000 Series Common Sets

Forget Charts - The Following assemblies solve 99% of all applications



Stainless Series - Flush Head

SK40S5S-SET1	Grip Range
SK40S5-2S Phillips Head SK-OS Panel Grommet (.094 max thickness) SK-R4G Stud/Grommet Retainer SK245A161A Adjustable Receptacle 1/8" Rivets not included	.010 - .310

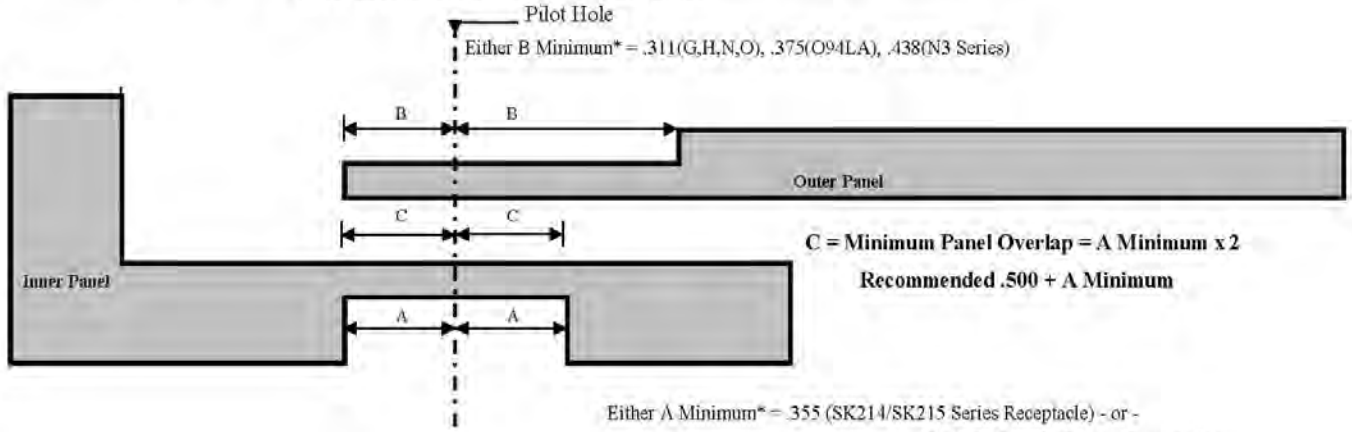
Skytanium® Series - Flush Head

ZG4002-SET1	Grip Range
ZG4002-2 Collared Slot ZG-094LA Panel Grommet (.094 max thickness) SK-R4G Stud/Grommet Retainer SK245A161A Adjustable Receptacle 1/8" Rivets not included	.010 - .310

Note 1 - OS Grommet Restrictions - Max Outer Panel Thickness = .094

Note 2 - See Dimension 'B' and 'C' below for minimum panel clearance and Overlap for SK245-4 Receptacle

What does Overlap Mean? Work from the Inner Panel Out (Choose receptacle then grommet), then determine location of pilot hole.







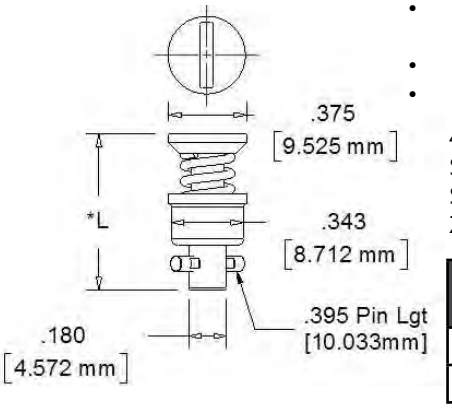
Installation Tools (See Page 43)	
4P3-T26 Tools	Tools to install studs through grommets and install grommet retainers
SK4DJ	Flex Handle Drill Jig to drill rivet holes with #30 Drill
Template-245	Template to expand center hole with Unibit-3 Stepdrill

CLoc® SK4002 & ZG4002 Series

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.

- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172





4002-[ ] Collared Slot Steel
SK4002-[ ]S Collared Slot
SK4002-[ ]S45 Collared Slot
ZG4002-[ ] Skytanium®

Replacements	Stainless	Steel	High Temp A286/Inconel	High Temp 300/Inconel
CamLoc®	4002-(x)S	4002-(x)	40S45-(x)	40S45-(x)B
Lisi	1142002-(x)	1142000-(x)	1142004-(x)	1142024-(x)

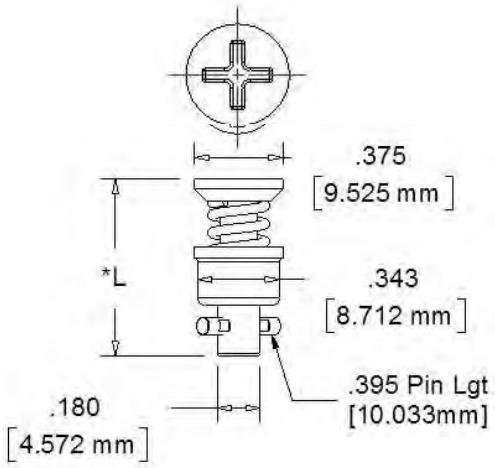
Steel Collared Slot	Stainless Collared Slot	300SS Stainless Collared Slot 700°F	Skytanium® Collared Slot	Total Stud Length L		Grip SK214/40R17 Series (1) Fixed Depth Receptacle With G or H Flush Grommets Combined Panel Thickness				Grip SK215 and SK245 Series Adjustable Depth Receptacle Combined Panel Thickness			
						Decimal		Millimeter		Decimal		Millimeter	
Part #	Part #	Part #	Part #	Dec	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK4002-2	SK4002-2S	SK4002-2S45	ZG4002-2	.690	17.27	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK4002-3	SK4002-3S	SK4002-3S45	ZG4002-3	.720	18.03	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK4002-4	SK4002-4S	SK4002-4S45	ZG4002-4	.750	18.80	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK4002-5	SK4002-5S	SK4002-5S45	ZG4002-5	.780	19.56	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK4002-6	SK4002-6S	SK4002-6S45	ZG4002-6	.810	20.32	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK4002-7	SK4002-7S	SK4002-7S45	ZG4002-7	.840	21.08	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK4002-8	SK4002-8S	SK4002-8S45	ZG4002-8	.870	21.84	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK4002-9	SK4002-9S	SK4002-9S45	ZG4002-9	.900	22.61	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK4002-10	SK4002-10S	SK4002-10S45	ZG4002-10	.930	23.37	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK4002-11	SK4002-11S	SK4002-11S45	ZG4002-11	.960	24.13	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK4002-12	SK4002-12S	SK4002-12S45	ZG4002-12	.990	24.89	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK4002-13	SK4002-13S	SK4002-13S45	ZG4002-13	1.020	25.65	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK4002-14	SK4002-14S	SK4002-14S45	ZG4002-14	1.050	26.42	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK4002-15	SK4002-15S	SK4002-15S45	ZG4002-15	1.080	27.18	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers													
SK4002-16	SK4002-16S	SK4002-16S45	ZG4002-16	1.110	27.94	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK4002-17	SK4002-17S	SK4002-17S45	ZG4002-17	1.140	28.70	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK4002-18	SK4002-18S	SK4002-18S45	ZG4002-18	1.170	29.46	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK4002-19	SK4002-19S	SK4002-19S45	ZG4002-19	1.200	30.23	.591	.620	15.01	15.75	.520	.820	13.21	20.83
SK4002-20	SK4002-20S	SK4002-20S45	ZG4002-20	1.230	30.99	.621	.650	15.77	16.51	.550	.850	13.97	21.59

(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

CLoc® SK40S5 Series

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.



- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172



40S5-[ ] Phillips Head - Steel
SK40S5-[ ]S Phillips Head - Hardened Diamondhead®
SK40S5-[ ]S45 Phillips Head 700°F - Hardened Diamondhead®

Replacements	Stainless	Steel	High Strength* 410SS
CamLoc®	40S5-(x)S	40S5-(x)	40S41-(x)SC
Lisi	1142012-(x)	1142005-(x)	1142026-(x)

*Note: CamLoc® 40S5(x)S and 40S41 ultimate tensile ratings are 735 lb-f.
Standard Skybolt® 40S5 and 40S5-(x)S are rated at 1050 lb-f

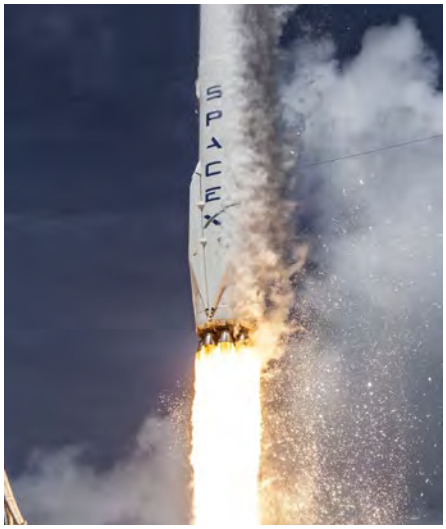
Steel Phillips	Stainless Phillips	Stainless Phillips 700°F	Total Stud Length L		Grip SK214/40R17 Series (1) Fixed Depth Receptacle With G or H Flush Grommets Combined Panel Thickness				Grip SK215 and SK245 Series Adjustable Depth Receptacle Combined Panel Thickness			
					Decimal		Millimeter		Decimal		Millimeter	
Part #	Part #	Part #	Decimal	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK40S5-2	SK40S5-2S	SK40S5-2S45	.690	17.27	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK40S5-3	SK40S5-3S	SK40S5-3S45	.720	18.03	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK40S5-4	SK40S5-4S	SK40S5-4S45	.750	18.80	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK40S5-5	SK40S5-5S	SK40S5-5S45	.780	19.56	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK40S5-6	SK40S5-6S	SK40S5-6S45	.810	20.32	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK40S5-7	SK40S5-7S	SK40S5-7S45	.840	21.08	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK40S5-8	SK40S5-8S	SK40S5-8S45	.870	21.84	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK40S5-9	SK40S5-9S	SK40S5-9S45	.900	22.61	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK40S5-10	SK40S5-10S	SK40S5-10S45	.930	23.37	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK40S5-11	SK40S5-11S	SK40S5-11S45	.960	24.13	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK40S5-12	SK40S5-12S	SK40S5-12S45	.990	24.89	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK40S5-13	SK40S5-13S	SK40S5-13S45	1.020	25.65	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK40S5-14	SK40S5-14S	SK40S5-14S45	1.050	26.42	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK40S5-15	SK40S5-15S	SK40S5-15S45	1.080	27.18	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers												
SK40S5-16	SK40S5-16S	SK40S5-16S45	1.110	27.94	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK40S5-17	SK40S5-17S	SK40S5-17S45	1.140	28.70	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK40S5-18	SK40S5-18S	SK40S5-18S45	1.170	29.46	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK40S5-19	SK40S5-19S	SK40S5-19S45	1.200	30.23	.591	.620	15.01	15.75	.520	.820	13.21	20.83
SK40S5-20	SK40S5-20S	SK40S5-20S45	1.230	30.99	.621	.650	15.77	16.51	.550	.850	13.97	21.59

(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

CLoc® SK4002-[ ]SL Sealed Series

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.



- Compatible with CamLoc® 40S37-[ ] Fasteners
- 700 lb Working Load - 1050 lb Ultimate (Tensile)
- Water Proof to 1 meter/1 hour
- TSO-C148 Pending
- Optional holdout feature - U.S. Patent 10,539,172



Use with SK4N-4SL Sealed Grommet

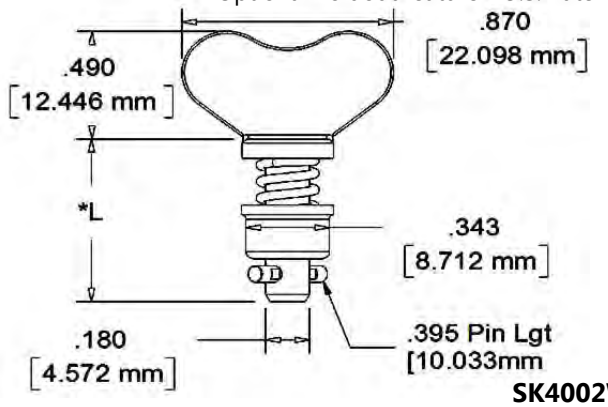
Stainless Collared Slot Sealed 40S37-[ ] Series	**Total Stud Length L**		**Grip SK214/40R17 Series (1)** Fixed Depth Receptacle Combined Panel Thickness				**Grip SK215 and SK245 Series** Adjustable Depth Receptacle Combined Panel Thickness			
			Decimal		Millimeter		Decimal		Millimeter	
Part #	Decimal	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK4002-2SL	.700	17.78	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK4002-3SL	.730	18.54	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK4002-4SL	.760	19.30	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK4002-5SL	.790	20.07	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK4002-6SL	.820	20.83	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK4002-7SL	.850	21.59	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK4002-8SL	.880	22.35	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK4002-9SL	.910	23.11	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK4002-10SL	.940	23.88	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK4002-11SL	.970	24.64	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK4002-12SL	1.000	25.40	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK4002-13SL	1.030	26.16	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK4002-14SL	1.060	26.92	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK4002-15SL	1.090	27.69	.471	.500	11.96	12.70	.400	.700	10.16	17.78
SK4002-16SL	1.120	28.45	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK4002-17SL	1.150	29.21	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK4002-18SL	1.180	29.97	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK4002-19SL	1.210	30.73	.591	.620	15.01	15.75	.520	.820	13.21	20.83
SK4002-20SL	1.240	31.50	.621	.650	15.77	16.51	.550	.850	13.97	21.59

CLoc® SK4002 Winged

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.

- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172



Replacements	Stainless	Steel
CamLoc®	4002-(x)SW	4002-(x)W
Lisi	1142016-(x)	1142007-(x)

SK4002W Wing

Steel Winged	Stainless Winged	Total Stud Length L		Grip SK214/40R17 Series (1) Fixed Depth Receptacle Combined Panel Thickness				Grip SK215 and SK245 Series Adjustable Depth Receptacle Combined Panel Thickness			
				Decimal		Millimeter		Decimal		Millimeter	
Part #	Part #	inches	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK4002-2W	SK4002-2SW	.680	17.27	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK4002-3W	SK4002-3SW	.710	18.03	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK4002-4W	SK4002-4SW	.740	18.80	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK4002-5W	SK4002-5SW	.770	19.56	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK4002-6W	SK4002-6SW	.800	20.32	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK4002-7W	SK4002-7SW	.830	21.08	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK4002-8W	SK4002-8SW	.860	21.84	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK4002-9W	SK4002-9SW	.890	22.61	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK4002-10W	SK4002-10SW	.920	23.37	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK4002-11W	SK4002-11SW	.950	24.13	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK4002-12W	SK4002-12SW	.980	24.89	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK4002-13W	SK4002-13SW	1.010	25.65	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK4002-14W	SK4002-14SW	1.040	26.42	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK4002-15W	SK4002-15SW	1.070	27.18	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers											
SK4002-16W	SK4002-16SW	1.100	27.94	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK4002-17W	SK4002-17SW	1.130	28.70	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK4002-18W	SK4002-18SW	1.160	29.46	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK4002-19W	SK4002-19SW	1.190	30.23	.591	.620	15.01	15.75	.520	.820	13.21	20.83
SK4002-20W	SK4002-20SW	1.220	30.99	.621	.650	15.77	16.51	.550	.850	13.97	21.59

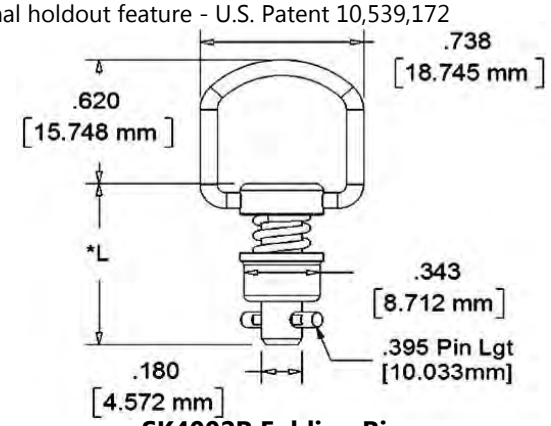
(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

CLoc® SK4002 Folding Ring

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.

- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172



SK4002R Folding Ring

Steel Folding Ring	Stainless Folding Ring	Total Stud Length L		Grip SK214/40R17 Series (1) Fixed Depth Receptacle Combined Panel Thickness				Grip SK215 and SK245 Series Adjustable Depth Receptacle Combined Panel Thickness			
				Decimal		Millimeter		Decimal		Millimeter	
Part #	Part #	inches	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK4002-2R	SK4002-2SR	.835	21.21	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK4002-3R	SK4002-3SR	.865	21.97	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK4002-4R	SK4002-4SR	.895	22.73	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK4002-5R	SK4002-5SR	.925	23.50	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK4002-6R	SK4002-6SR	.955	24.26	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK4002-7R	SK4002-7SR	.985	25.02	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK4002-8R	SK4002-8SR	1.015	25.78	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK4002-9R	SK4002-9SR	1.045	26.54	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK4002-10R	SK4002-10SR	1.075	27.31	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK4002-11R	SK4002-11SR	1.105	28.07	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK4002-12R	SK4002-12SR	1.135	28.83	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK4002-13R	SK4002-13SR	1.165	29.59	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK4002-14R	SK4002-14SR	1.195	30.35	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK4002-15R	SK4002-15SR	1.225	31.12	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers											
SK4002-16R	SK4002-16SR	1.255	31.88	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK4002-17R	SK4002-17SR	1.285	32.64	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK4002-18R	SK4002-18SR	1.315	33.401	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK4002-19R	SK4002-19SR	1.345	34.163	.591	.620	15.01	15.75	.520	.820	13.21	20.83
SK4002-20R	SK4002-20SR	1.375	34.925	.621	.650	15.77	16.51	.550	.850	13.97	21.59

(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

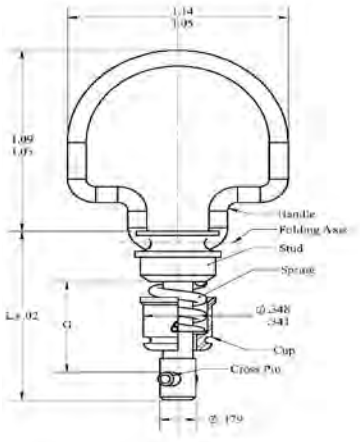
CLoc® SK40S47 Bail Handle Series

4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.

- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172





Replacements	Steel	Steel Nickel Plate
CamLoc®	40S47-(X)	40S47-(X)AR
Lisi	1142014-(X)	1142015-(X)

Folding Bail Handle SK40S47 Series Studs			**Total Stud Length L**		**Grip SK214/40R17 Series (1)** Fixed Depth Receptacle Combined Panel Thickness				**Grip SK215 and SK245 Series** Adjustable Depth Receptacle Combined Panel Thickness			
					Decimal		Millimeter		Decimal		Millimeter	
Steel	**Stainless**	**Skytanium®**										
Part #	Part #	Part #	inches	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK40S47-2	SK40S47-2S	ZG40S47-2	0.870	22.10	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK40S47-3	SK40S47-3S	ZG40S47-3	0.900	22.86	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK40S47-4	SK40S47-4S	ZG40S47-4	0.930	23.62	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK40S47-5	SK40S47-5S	ZG40S47-5	0.960	24.38	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK40S47-6	SK40S47-6S	ZG40S47-6	0.990	25.15	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK40S47-7	SK40S47-7S	ZG40S47-7	1.020	25.91	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK40S47-8	SK40S47-8S	ZG40S47-8	1.050	26.67	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK40S47-9	SK40S47-9S	ZG40S47-9	1.080	27.43	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK40S47-10	SK40S47-10S	ZG40S47-10	1.110	28.19	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK40S47-11	SK40S47-11S	ZG40S47-11	1.140	28.96	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK40S47-12	SK40S47-12S	ZG40S47-12	1.170	29.72	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK40S47-13	SK40S47-13S	ZG40S47-13	1.200	30.48	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK40S47-14	SK40S47-14S	ZG40S47-14	1.230	31.24	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK40S47-15	SK40S47-15S	ZG40S47-15	1.260	32.00	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers												
SK40S47-16	SK40S47-16S	ZG40S47-16	1.290	32.77	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK40S47-17	SK40S47-17S	ZG40S47-17	1.320	33.53	.531	.560	13.49	14.22	.460	.760	11.68	19.30

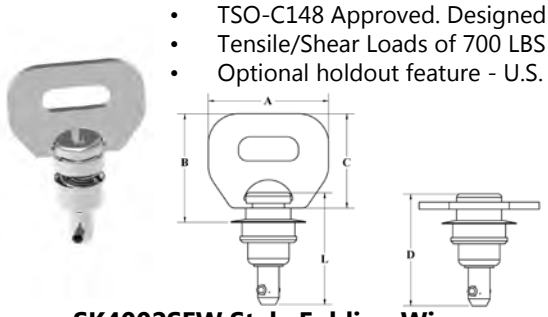
(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

CLoc® SK4002SFW Folding Wing Series

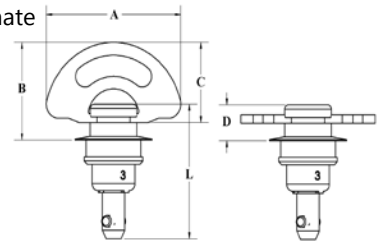
4 - Piece Series (Stud/Retainer - Grommet - Locking Receptacle)

All -6 and longer studs available with patented hold out feature - Minimizes protrusion when unlocked.

- Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series
- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Ultimate
- Optional holdout feature - U.S. Patent 10,539,172



SK4002SFW Style Folding Wing
US Patent Pending



SK4001SFW Style Folding Wing

	A		B(1)		C		D (1)	
	Decimal	mm	Decimal	mm	Decimal	mm	Decimal	mm
SK4002-(x)SFW	1.000	25.40	0.850	21.59	0.800	20.32	0.260	6.60
SK4001-(x)SFW	1.073	27.25	0.660	16.76	0.567	14.40	0.260	6.60

Folding Wing SK4002FW Series Studs		**Total Stud Length L**		**Grip SK214/40R17 Series (1)** Fixed Depth Receptacle Combined Panel Thickness				**Grip SK215 and SK245 Series** Adjustable Depth Receptacle Combined Panel Thickness			
				Decimal		Millimeter		Decimal		Millimeter	
4002SFW	**4001SFW**										
Part #	Part #	inches	mm	Min	Max	Min	Max	Min	Max	Min	Max
SK4002-2SFW	SK4001-2SFW	0.920	23.37	.081	.110	2.06	2.79	.010	.310	0.25	7.87
SK4002-3SFW	SK4001-3SFW	0.950	24.13	.111	.140	2.82	3.56	.040	.340	1.02	8.64
SK4002-4SFW	SK4001-4SFW	0.980	24.89	.141	.170	3.58	4.32	.070	.370	1.78	9.40
SK4002-5SFW	SK4001-5SFW	1.010	25.65	.171	.200	4.34	5.08	.100	.400	2.54	10.16
SK4002-6SFW	SK4001-6SFW	1.040	26.42	.200	.230	5.08	5.84	.130	.430	3.30	10.92
SK4002-7SFW	SK4001-7SFW	1.070	27.18	.231	.260	5.87	6.60	.160	.460	4.06	11.68
SK4002-8SFW	SK4001-8SFW	1.100	27.94	.261	.290	6.63	7.37	.190	.490	4.83	12.45
SK4002-9SFW	SK4001-9SFW	1.130	28.70	.291	.320	7.39	8.13	.220	.520	5.59	13.21
SK4002-10SFW	SK4001-10SFW	1.160	29.46	.321	.350	8.15	8.89	.250	.550	6.35	13.97
SK4002-11SFW	SK4001-11SFW	1.190	30.23	.351	.380	8.92	9.65	.280	.580	7.11	14.73
SK4002-12SFW	SK4001-12SFW	1.220	30.99	.381	.410	9.68	10.41	.310	.610	7.87	15.49
SK4002-13SFW	SK4001-13SFW	1.250	31.75	.411	.440	10.44	11.18	.340	.640	8.64	16.26
SK4002-14SFW	SK4001-14SFW	1.280	32.51	.441	.470	11.20	11.94	.370	.670	9.40	17.02
SK4002-15SFW	SK4001-15SFW	1.310	33.27	.471	.500	11.96	12.70	.400	.700	10.16	17.78
Studs -16 and longer must use SK4002-SWS Retainers											
SK4002-16SFW	SK4001-16SFW	1.340	34.04	.501	.530	12.73	13.46	.430	.730	10.92	18.54
SK4002-17SFW	SK4001-17SFW	1.370	34.80	.531	.560	13.49	14.22	.460	.760	11.68	19.30
SK4002-18SFW	SK4001-18SFW	1.400	35.56	.561	.590	14.25	14.99	.490	.790	12.45	20.07
SK4002-19SFW	SK4001-19SFW	1.430	36.32	.591	.560	15.01	14.22	.520	.820	13.21	20.83
SK4002-20SFW	SK4001-20SFW	1.460	37.08	.621	.590	15.77	14.99	.550	.850	13.97	21.59

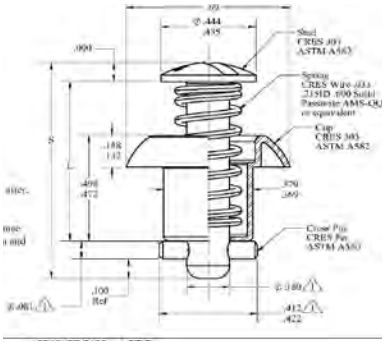
(1) For 244/SK244 Floating Series add .030 to total thickness. For all Grommets besides G and H, add .030 to total thickness.
Example: Outer panel = .040, Inner panel =.060 - Total grip = .100. Using SK244-16 type receptacle and SK-OS grommet, add .060 = .160 total grip. From the chart, select -4 stud.

CLoc® SK40S128 Grommetless Slotted Stud

3 - Piece Series (Stud/Retainer - Locking Receptacle)



- Compatible with CamLoc® 40S128-( )-1AA Fasteners
- 700 lb Working Load - 1050 lb Ultimate (Tensile)
- TSO-C148 Pending
- Available in Stainless & Skytanium®





Skybolt® ® Part#	CamLoc® Part#	Skybolt® ® L min	Skybolt® ® L max	Cam-Loc® L min	Cam-Loc® L max	Skybolt® ® S Dim	Cam-Loc® S Dim	Grip Min	Grip Max	Grip Min mm	Grip Max mm
SK40S128-2-1AA	40S128-2-1AA	0.593	0.603	0.613	0.623	0.878	0.885	0.135	0.165	3.429	4.191
SK40S128-3-1AA	40S128-3-1AA	0.623	0.633	0.643	0.653	0.908	0.915	0.165	0.195	4.191	4.953
SK40S128-4-1AA	40S128-4-1AA	0.653	0.663	0.673	0.683	0.938	0.945	0.195	0.225	4.953	5.715
SK40S128-5-1AA	40S128-5-1AA	0.683	0.693	0.703	0.713	0.968	0.975	0.225	0.255	5.715	6.477
SK40S128-6-1AA	40S128-6-1AA	0.713	0.723	0.733	0.743	0.998	1.005	0.255	0.285	6.477	7.239
SK40S128-7-1AA	40S128-7-1AA	0.743	0.753	0.763	0.773	1.028	1.035	0.285	0.315	7.239	8.001
SK40S128-8-1AA	40S128-8-1AA	0.773	0.783	0.793	0.803	1.058	1.065	0.315	0.345	8.001	8.763
SK40S128-9-1AA	40S128-9-1AA	0.803	0.813	0.823	0.833	1.088	1.095	0.345	0.375	8.763	9.525
SK40S128-10-1AA	40S128-10-1AA	0.833	0.843	0.853	0.863	1.118	1.125	0.375	0.405	9.525	10.287
SK40S128-11-1AA	40S128-11-1AA	0.863	0.873	0.883	0.893	1.148	1.155	0.405	0.435	10.287	11.049
SK40S128-12-1AA	40S128-12-1AA	0.893	0.903	0.913	0.923	1.178	1.185	0.435	0.465	11.049	11.811
SK40S128-13-1AA	40S128-13-1AA	0.923	0.933	0.943	0.953	1.208	1.215	0.465	0.495	11.811	12.573
SK40S128-14-1AA	40S128-14-1AA	0.953	0.963	0.973	0.983	1.238	1.245	0.495	0.525	12.573	13.335
SK40S128-15-1AA	40S128-15-1AA	0.983	0.993	1.003	1.013	1.268	1.275	0.525	0.555	13.335	14.097
SK40S128-16-1AA	40S128-16-1AA	1.013	1.023	1.033	1.043	1.298	1.305	0.555	0.585	14.097	14.859
SK40S128-17-1AA	40S128-17-1AA	1.043	1.053	1.063	1.073	1.328	1.335	0.585	0.615	14.859	15.621
SK40S128-18-1AA	40S128-18-1AA	1.073	1.083	1.093	1.103	1.358	1.365	0.615	0.645	15.621	16.383
SK40S128-19-1AA	40S128-19-1AA	1.103	1.113	1.123	1.133	1.388	1.395	0.645	0.675	16.383	17.145
SK40S128-20-1AA	40S128-20-1AA	1.133	1.143	1.153	1.163	1.418	1.425	0.675	0.705	17.145	17.907

Stud Retainer
SK40S142S



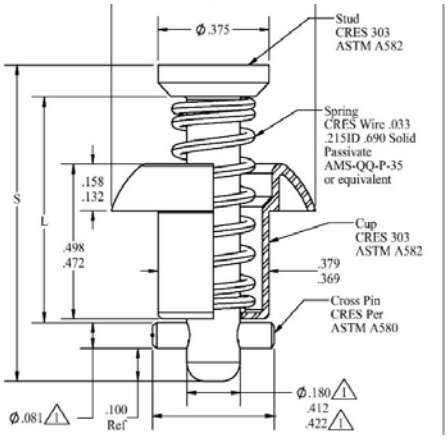
Replacements	Stainless
CamLoc®	40S128-(x)-1AA
Lisi	1142006-(x)

CLoc® SK40S128 Grommetless Phillips Stud

3 - Piece Series (Stud/Retainer - Locking Receptacle)

- Compatible with CamLoc® 40S128-( )-2AA Fasteners
- 700 lb Working Load - 1050 lb Ultimate (Tensile)
- TSO-C148 Pending
- Available in Stainless & Skytanium®





Skybolt® ® Part#	CamLoc® Part#	Skybolt® ® L min	Skybolt® ® L max	Cam-Loc® L min	Cam-Loc® L max	Skybolt® ® S Dim	Cam-Loc® S Dim	Grip Min	Grip Max	Grip Min mm	Grip Max mm
SK40S128-2-2AA	40S128-2-2AA	0.593	0.603	0.613	0.623	0.878	0.885	0.135	0.165	3.429	4.191
SK40S128-3-2AA	40S128-3-2AA	0.623	0.633	0.643	0.653	0.908	0.915	0.165	0.195	4.191	4.953
SK40S128-4-2AA	40S128-4-2AA	0.653	0.663	0.673	0.683	0.938	0.945	0.195	0.225	4.953	5.715
SK40S128-5-2AA	40S128-5-2AA	0.683	0.693	0.703	0.713	0.968	0.975	0.225	0.255	5.715	6.477
SK40S128-6-2AA	40S128-6-2AA	0.713	0.723	0.733	0.743	0.998	1.005	0.255	0.285	6.477	7.239
SK40S128-7-2AA	40S128-7-2AA	0.743	0.753	0.763	0.773	1.028	1.035	0.285	0.315	7.239	8.001
SK40S128-8-2AA	40S128-8-2AA	0.773	0.783	0.793	0.803	1.058	1.065	0.315	0.345	8.001	8.763
SK40S128-9-2AA	40S128-9-2AA	0.803	0.813	0.823	0.833	1.088	1.095	0.345	0.375	8.763	9.525
SK40S128-10-2AA	40S128-10-2AA	0.833	0.843	0.853	0.863	1.118	1.125	0.375	0.405	9.525	10.287
SK40S128-11-2AA	40S128-11-2AA	0.863	0.873	0.883	0.893	1.148	1.155	0.405	0.435	10.287	11.049
SK40S128-12-2AA	40S128-12-2AA	0.893	0.903	0.913	0.923	1.178	1.185	0.435	0.465	11.049	11.811
SK40S128-13-2AA	40S128-13-2AA	0.923	0.933	0.943	0.953	1.208	1.215	0.465	0.495	11.811	12.573
SK40S128-14-2AA	40S128-14-2AA	0.953	0.963	0.973	0.983	1.238	1.245	0.495	0.525	12.573	13.335
SK40S128-15-2AA	40S128-15-2AA	0.983	0.993	1.003	1.013	1.268	1.275	0.525	0.555	13.335	14.097
SK40S128-16-2AA	40S128-16-2AA	1.013	1.023	1.033	1.043	1.298	1.305	0.555	0.585	14.097	14.859
SK40S128-17-2AA	40S128-17-2AA	1.043	1.053	1.063	1.073	1.328	1.335	0.585	0.615	14.859	15.621
SK40S128-18-2AA	40S128-18-2AA	1.073	1.083	1.093	1.103	1.358	1.365	0.615	0.645	15.621	16.383
SK40S128-19-2AA	40S128-19-2AA	1.103	1.113	1.123	1.133	1.388	1.395	0.645	0.675	16.383	17.145
SK40S128-20-2AA	40S128-20-2AA	1.133	1.143	1.153	1.163	1.418	1.425	0.675	0.705	17.145	17.907

Stud Retainer
SK40S142S



Replacements	Stainless
CamLoc®	40S128-(x)-2AA
Lisi	None

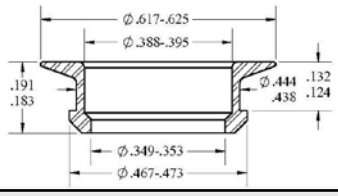
CLoc® 4000 Series Stud Weights

Dash #	SK4002S/40S5S		SK4002SW		SK4002SWF		Skytanium® ZG4002	
	Lbs	Grams	Lbs	Grams	Lbs	Grams	Lbs	Grams
-2	.0095	4.3091	0.0145	6.5771	0.0240	10.8862	0.0045	2.0414
-3	.0100	4.5359	0.0155	7.0307	0.0245	11.1130	0.0047	2.1321
-4	.0105	4.7627	0.0160	7.2575	0.0245	11.1130	0.0050	2.2682
-5	.0110	4.9895	0.0165	7.4843	0.0255	11.5666	0.0055	2.4950
-6	.0120	5.4431	0.0175	7.9379	0.0263	11.9068	0.0060	2.7219
-7	.0130	5.8967	0.0185	8.3915	0.0270	12.2470	0.0065	2.9487
-8	.0135	6.1235	0.0190	8.6183	0.0278	12.5872	0.0067	3.0394
-9	.0140	6.3503	0.0195	8.8451	0.0285	12.9274	0.0069	3.1520
-10	.0150	6.8039	0.0205	9.2986	0.0295	13.3810	0.0074	3.3772
-11	.0155	7.0307	0.0210	9.5254	0.0303	13.7212	0.0077	3.4897
-12	.0165	7.4843	0.0220	9.9790	0.0310	14.0614	0.0082	3.7149
-13	.0170	7.7111	0.0225	10.2058	0.0318	14.4016	0.0084	3.8275
-14	.0175	7.9379	0.0230	10.4326	0.0325	14.7418	0.0087	3.9400
-15	.0185	8.3915	0.0240	10.8862	0.0333	15.0819	0.0092	4.1652
-16	.0130	5.8967	0.0185	8.3915	0.0340	15.4221	0.0065	2.9269
-17	.0132	5.9874	0.0187	8.4822	0.0348	15.7623	0.0066	2.9798
-18	.0135	6.1235	0.0190	8.6183	0.0355	16.1025	0.0067	3.0327
-19	.0137	6.2142	0.0192	8.7090	0.0363	16.4427	0.0068	3.0856
-20	.0139	6.3049	0.0194	8.7997	0.0375	17.0097	0.0069	3.1385
-21	.0142	6.4410	0.0197	8.9358			0.0070	3.1914
-22	.0144	6.5317	0.0199	9.0265			0.0072	3.2443
-23	.0146	6.6224	0.0201	9.1172			0.0073	3.2972
-24	.0149	6.7585	0.0204	9.2533			0.0074	3.3501
-25	.0151	6.8492	0.0206	9.3440			0.0075	3.4031
-26	.0153	6.9400	0.0208	9.4347			0.0076	3.4560
-27	.0156	7.0760	0.0211	9.5708			0.0077	3.5089
-28	.0158	7.1668	0.0213	9.6615			0.0079	3.5618
-29	.0160	7.2575	0.0215	9.7522			0.0080	3.6147
-30	.0162	7.3482	0.0217	9.8430			0.0081	3.6676
-31	.0165	7.4843	0.0220	9.9790			0.0082	3.7205
-32	.0168	7.6204	0.0223	10.1151			0.0083	3.7734
-33	.0170	7.7111	0.0225	10.2058			0.0084	3.8263
-34	.0172	7.8018	0.0227	10.2965			0.0086	3.8792
-35	.0175	7.9379	0.0230	10.4326			0.0087	3.9321
-36	.0177	8.0286	0.0232	10.5233			0.0088	3.9851
-37	.0179	8.1193	0.0234	10.6141			0.0089	4.0380
-38	.0182	8.2554	0.0237	10.7501			0.0090	4.0909
-39	.0184	8.3461	0.0239	10.8409			0.0091	4.1438
-40	.0186	8.4368	0.0241	10.9316			0.0093	4.1967
-41	.0189	8.5729	0.0244	11.0677			0.0094	4.2496
-42	.0191	8.6636	0.0246	11.1584			0.0095	4.3025
-43	.0193	8.7543	0.0248	11.2491			0.0096	4.3554
-44	.0196	8.8904	0.0251	11.3852			0.0097	4.4083
-45	.0198	8.9811	0.0253	11.4759			0.0098	4.4612

Weights are for Steel and Stainless or Skytanium® as noted.

CLoc® SK4000 Series Flush Grommets

Standard Grommets (For Panels up to .126)
TSO-C148



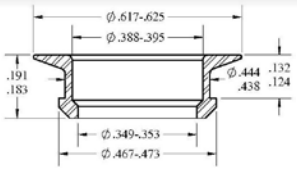


'G' Series - Panels to .068 Thickness

	Steel	Stainless
Cam-Loc®	4002-G	4002-GS

SK-GP (Ext-Flare)

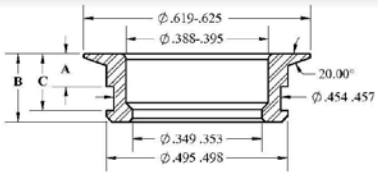
Cam-Loc®	4002-P2-(x)A	4002-P2-(x)S





'H' Series - Panels to .126 Thickness

	Steel	Stainless
Cam-Loc®	4002-H	4002-HS
Lisi	1142900-2	114904-2





SK40G1 High Shear Series
- Panels to 151 Thickness

	Steel	Stainless
Cam-Loc®	40G1-(x)	None
Lisi	1142909-(x)	None

Flush Grommets require 140° countersunk panels. Standard flush grommets are available in two thickness ranges, G for panels up to .083, and H for panels up to .126 in thickness. Many production aircraft installations used Flush Grommets.

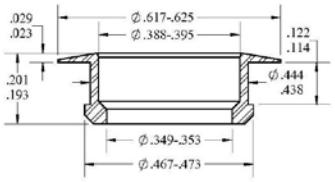
Engineering Data for Flush Series CLoc® Grommets (Chart 1)

Steel Grommet#	A	B	C	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 Rec	Minimum Total Thickness* SK215 Rec
SK-G		.191	.124	Flush - Standard	Steel	Up to .083	Up to .064	Skybolt® CLoc® components have no minimum restriction	
SK40G1-3	.043	189	.109	Flush - High Shear	Steel	Up to .068	Up to .049		
SK40G1-4	.053	189	.119	Flush - High Shear	Steel	Up to .078	Up to .059		
SK40G1-5	.063	.189	.129	Flush - High Shear	Steel	Up to .088	Up to .069		
SK40G1-6	.073	.189	.139	Flush - High Shear	Steel	Up to .098	Up to .079		
SK40G1-8	.090	.189	.156	Flush - High Shear	Steel	Up to .115	Up to .096		
SK40G1-10	.111	.218	.177	Flush - High Shear	Steel	Up to .136	Up to .117		
SK40G1-11	.126	.218	.192	Flush - High Shear	Steel	Up to .151	Up to .132		
SK-H		.201	.167	Flush - Standard	Steel	Up to .126	Up to .107		

Stainless Grommet#	A	B	C	TSO-C148 Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 Rec	Minimum Total Thickness* SK215 Rec
SK-GS		.191	.124	Flush - Standard	Stainless	Up to .083	Up to .064	Skybolt® CLoc® components have no minimum restriction	
SK40G1-3S	.043	189	.109	Flush - High Shear	Stainless	Up to .068	Up to .049		
SK40G1-4S	.053	189	.119	Flush - High Shear	Stainless	Up to .078	Up to .059		
SK40G1-5S	.063	.189	.129	Flush - High Shear	Stainless	Up to .088	Up to .069		
SK40G1-6S	.073	.189	.139	Flush - High Shear	Stainless	Up to .098	Up to .079		
SK40G1-8S	.090	.189	.156	Flush - High Shear	Stainless	Up to .115	Up to .096		
SK40G1-10S	.111	.218	.177	Flush - High Shear	Stainless	Up to .136	Up to .117		
SK40G1-11S	.126	.218	.192	Flush - High Shear	Stainless	Up to .151	Up to .132		
SK-HS		.201	.167	Flush - Standard	Stainless	Up to .126	Up to .107		

CLoc® SK4000 Series PlusFlush Grommets

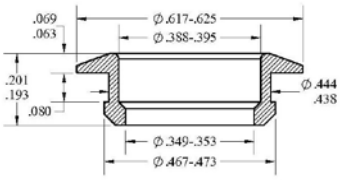
Standard Grommets (For Panels up to .073
TSO-C148





SK-N2 Series

	Steel	Stainless
Cam-Loc®	4002-N2	4002-N2S
Lisi	1142901-1	1142903-1





SK-N Series

	Steel	Stainless
Cam-Loc®	4002-N	4002-NS
Lisi	1142005-(x)	1142012-(x)

Engineering Data for Flush Series CLoc® Grommets (Chart 2)

Grommet#	'L'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 / SK244-16 Rec	Minimum Total Thickness* SK215 / SK245* Rec
SK-N2	.184/4.68mm	Standard	Steel	Up to .025	Up to .011	Skybolt® CLoc® components have no minimum restriction	
SK-N	.197/5.00	Standard	Steel	Up to .079	Up to .063		

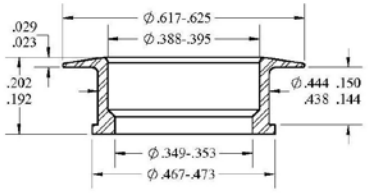
Grommet#	'L'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 / SK244-16 Rec	Minimum Total Thickness* SK215 / SK245* Rec
SK-N2S	.184/4.68mm	Standard	Stainless	Up to .025	Up to .011	Skybolt® CLoc® components have no minimum restriction	
SK-NS	.197/5.00	Standard	Stainless	Up to .079	Up to .063		

*Minimum thickness applies to CamLoc® Receptacles when grommet length is too long for panels

CLoc® SK4000 Series PlusFlush Grommets

Standard Grommets (For Panels up to .103) | Extended Grommets (For Panels up to .546)

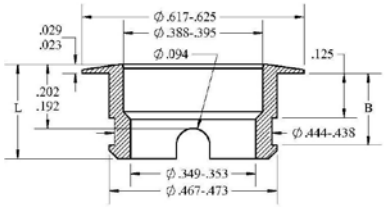
TSO-C148





SK-O Series

	Steel	Stainless
Cam-Loc®	4002-O	4002-OS
Lisi	1142901-3	1142903-3





SK-O Extended Length Series

	Steel	Stainless
Cam-Loc®	40G16-(x)	40G16-(x)S
Lisi	1142906-1	1142907-1

Skybolt® N and O Series Grommets do not require dimpled or countersunk holes . These grommets, however, are almost flush (Plus Flush) so that drag considerations are minor. Traditional snap ring grommets are restricted in depth by the clearances required to insert the studs through the grommet. The SK-O Extended Depth Grommets utilize a milled slot in the grommet skirt to allow any stud to be easily inserted or removed while extending the grip range of the grommet. This is especially useful for thicker panels up through 1/2". The SK-O Extended Depth Grommet eliminates the requirement to back-counterbore holes in order to install R4G Retainers. This Grommet is the perfect substitution for expensive Flare Retained Grommets

Engineering Data for Flush Series CLoc® Grommets (Chart 3)

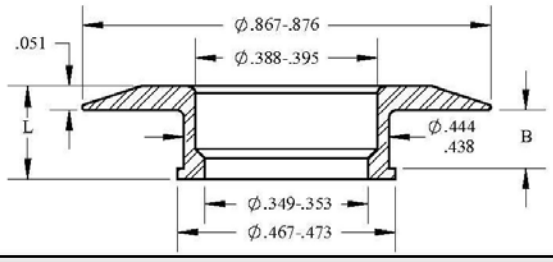
Grommet#	'B'	'L'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 SK244-16 Rec	Minimum Total Thickness* SK215 SK245* Rec
SK-O	.144	.202	Standard	Steel	Up to .103	Up to .084	Skybolt® CLoc® components have no minimum restriction	
SK-OG1-8	.144	.202	Non-Floating	Steel	Up to .103	Up to .084		
SK-O18	.188	.265	Ext Length	Steel	Up to .147	Up to .128		
SK-316	.277	.352	Ext Length	Steel	Up to .236	Up to .217		
SK-O14	.325	.428	Ext Length	Steel	Up to .284	Up to .265		
SK-O12	.587	.680	Ext Length	Steel	Up to .546	Up to .527		

Grommet#	'B'	'L'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 SK244-16 Rec	Minimum Total Thickness* SK215 SK245* Rec
SK-OS	.144	.202	Standard	Stainless	Up to .103	Up to .084	Skybolt® CLoc® components have no minimum restriction	
SK-OSG1-8	.144	.202	Non-Floating	Stainless	Up to .103	Up to .084		
SK-O18S	.233	.265	Ext Length	Stainless	Up to .192	Up to .173		
SK-316S	.277	.352	Ext Length	Stainless	Up to .236	Up to .217		
SK-O14S	.325	.428	Ext Length	Stainless	Up to .284	Up to .265		
SK-O12S	.587	.680	Ext Length	Stainless	Up to .546	Up to .527		

CLoc® SK4000 Series Large Area Grommets

For panels from .065 to .546

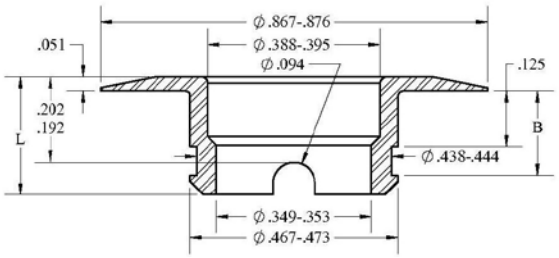
SO-C148





SK-N3 Series

	Steel	Stainless
Cam-Loc®	4002-N3	4002-N3-A
Lisi	1142931	1142927





SK-N3 Extended Length Series
ZG-LA Extended Lenth Series

	Steel	Stainless
Cam-Loc®	4002-P4-(x)	4002-P4-(x)A
Lisi	1142914-(x)	1142926-(x)

Wide area grommets are used in panels under high tensile loads and any application where tensile loads need to be expanded over a larger area. N-Series Grommets have a .875 width. ZG-LA grommets have a .750 width.

Engineering Data for CLoc® Grommets Plus Flush (Chart 4)

Steel Grommet#	'B'	'L'	'W'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 SK244-16 Rec	Minimum Total Thickness* SK215 SK245* Rec
SK-N3	.120	.201	.875	Standard	Steel	Up to .079	Up to .060	Skybolt® CLoc® components have no minimum restriction	
SK-N318	.188	.265	.875	Ext Length	Steel	Up to .147	Up to .128		
SK-N316	.277	.352	.875	Ext Length	Steel	Up to .236	Up to .217		
SK-N314	.325	.428	.875	Ext Length	Steel	Up to .284	Up to .265		
SK-N312	.587	.680	.875	Ext Length	Steel	Up to .546	Up to .527		

Stainless Grommet#	'B'	'L'	'W'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 SK244-16 Rec	Minimum Total Thickness* SK215 SK245* Rec
SK-N3S	.120	.201	.875	Standard	Stainless	Up to .079	Up to .060	Skybolt® CLoc® components have no minimum restriction	
SK-N318S	.188	.265	.875	Ext Length	Stainless	Up to .147	Up to .128		
SK-N316S	.277	.352	.875	Ext Length	Stainless	Up to .236	Up to .217		
SK-N314S	.325	.428	.875	Ext Length	Stainless	Up to .284	Up to .265		
SK-N312S	.587	.680	.875	Ext Length	Stainless	Up to .546	Up to .527		

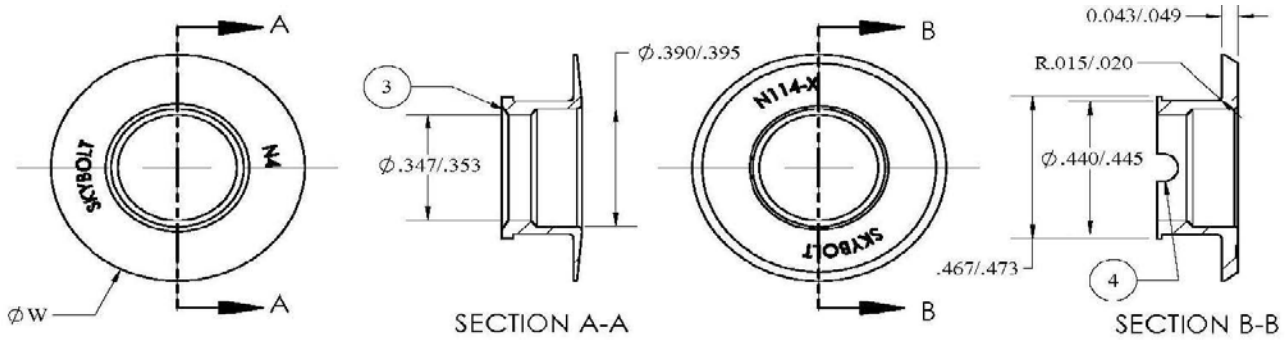
Skytanium® Grommet#	'B'	'L'	'W'	Type	Material	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness* SK214-16 SK244-16 Rec	Minimum Total Thickness* SK215 SK245* Rec
ZG-094LA	.120	.201	.750	Standard	Skytanium®	Up to .079	Up to .060	Skybolt® CLoc® components have no minimum restriction	
ZG-125LA	.188	.265	.750	Ext Length	Skytanium®	Up to .147	Up to .128		
ZG-187LA	.277	.352	.750	Ext Length	Skytanium®	Up to .236	Up to .217		
ZG-250LA	.325	.428	.750	Ext Length	Skytanium®	Up to .284	Up to .265		

*Minimum thickness applies to CamLoc® recept: Ext Length.

CLoc® SKN4 and SK-N114 Series Grommets

Wide Flange (.750) Grommets (For Panel Thickness up to .163)*

TSO-C148



SKN4 Series (TaperHead)

SK-N114 Series (FlatHead)
Replace AirLoc®II

The Skybolt® SKN4 and SK-114 Grommets are the perfect balance between traditional grommet head size and the large area SK-N3 grommets. Ideal for "workhorse" aircraft panels. Common to Ag Aircraft.

Notes: *When used with SK-R4GS retainers Grip is less with SK-R4TS Retainers. Charted Grip ranges are conservative.

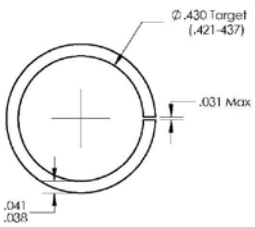
Engineering Data for CLoc® Grommets Plus Flush (Chart 5)

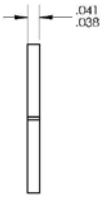
SKN4 Series Taper Face Grommet#	'B min"	'L'	Type	Material	Weight lb/g	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness(1) SK214-16 SK244-16 Rec	Minimum Total Thickness(1) SK215 SK245* Rec
SKN4-2	.114	.201	Taper Plus Flush	Steel/Cad	.60	Up to .073	Up to .054	Skybolt® CLoc® components have no minimum restriction	
SKN4-3	.137	.201	Taper Plus Flush	Steel/Cad	.60	Up to .096	Up to .077		
SKN4-4	.174	.239	Taper Plus Flush	Steel/Cad	.70	Up to .133	Up to .114		
SKN4-5	.204	.269	Taper Plus Flush	Steel/Cad	.80	Up to .163	Up to .144		
SKN4-2G	.114	.201	Taper Plus Flush	Steel/Primer	.70	Up to .073	Up to .054		
SKN4-3G	.137	.201	Taper Plus Flush	Steel/Primer	.70	Up to .096	Up to .077		
SKN4-4G	.174	.239	Taper Plus Flush	Steel/Primer	.80	Up to .133	Up to .114		
SKN4-5G	.204	.269	Taper Plus Flush	Steel/Primer	.90	Up to .163	Up to .144		
SKN4-2S	.114	.201	Taper Plus Flush	Stainless	.60	Up to .073	Up to .054		
SKN4-3S	.137	.201	Taper Plus Flush	Stainless	.60	Up to .096	Up to .077		
SKN4-4S	.174	.239	Taper Plus Flush	Stainless	.70	Up to .133	Up to .114		
SKN4-5S	.204	.269	Taper Plus Flush	Stainless	.80	Up to .163	Up to .144		

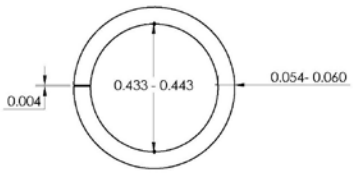
SK-N114 Flat Face Grommet#	'B min'	'L'	Type	Material	Weight lb/g	Panel Depth Range R4G Snap Ring	Panel Depth Range R4T Snap Ring	Minimum Total Thickness(1) SK214-16 SK244-16 Rec	Minimum Total Thickness(1) SK215 SK245* Rec
SK-N114-2	.114	.201	Flat Hd Plus Flush	Steel/Cad	.60	Up to .073	Up to .054	Skybolt® CLoc® components have no minimum restriction	
SK-N114-3	.137	.201	Flat Hd Plus Flush	Steel/Cad	.60	Up to .096	Up to .077		
SK-N114-4	.174	.239	Flat Hd Plus Flush	Steel/Cad	.70	Up to .133	Up to .114		
SK-N114-2S	.114	.201	Flat Hd Plus Flush	Stainless	.60	Up to .073	Up to .054		
SK-N114-3S	.137	.201	Flat Hd Plus Flush	Stainless	.70	Up to .096	Up to .077		
SK-N114-4S	.174	.239	Flat Hd Plus Flush	Stainless	.70	Up to .133	Up to .114		

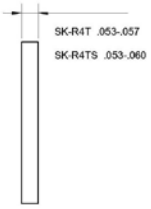
*Less panel thickness allows grommet to jam against inside of receptacle when fastener is locked. SK245-4 REV B and subsequent have no restrictions.

CLoc® 4000 Series Grommet Retainers









SK-R4G Steel
SK-R4GS Stainless
Replaces R4G, 40G26-1, or 1142905

SK-R4T Steel
SK-R4TS Stainless
Replaces R4T or 1142913

Note: Industry standard R4T parts have an ID tolerance of .428 - .458.

Install with SK-T26

Oversize or Worn Holes?

Simple solution to big problems. Simply insert over grommet skirt, install standard retainer, the hole is filled and the fastener assembly remains captive.

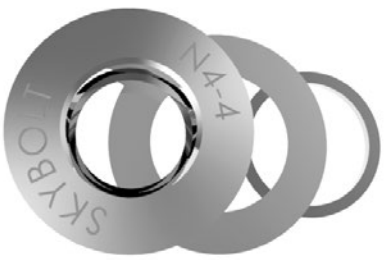


SK-R560 Series

Grommet Backing Washer
Use with standard grommets and retainer

Part#	Min Hole Dia	Max Hole Dia
SK-R560	.530	.600

Grip subtract .085 from charted grip for given grommet



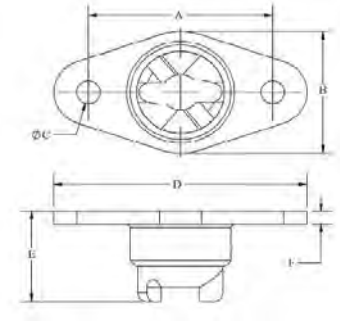
SKN4S SET

Grommet Backing Washer

Part#	Grip Range	Min Hole Dia	Max Hole Dia
SKN4-2S SET	up to .030	.472	.625
SKN4-3S SET	up to .062	.472	.625
SKN4-4S SET	up to .103	.472	.625

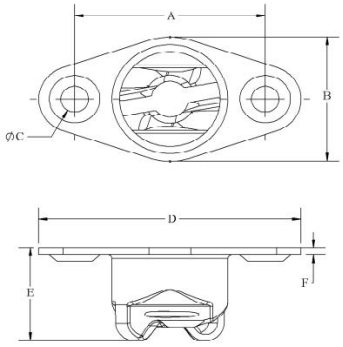
CLoc® SK4000 Non-Adjusting Receptacles

NASM5591 Performance Rated (unless noted) TSO-C148 Approved





SK214 Steel/Stainless -16S -16SD





SK40R17 Stainless LightWeight

Part #	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	F dec/mm	Weight Lb/Grams
SK214-16	1.000/25.400	0.715/18.161	1/8/3.251	1.375/34.925	0.520/3.251	0.063/3.251	.0110lb/5.1g
SK214-16D	1.000/25.400	0.715/18.161	1/8/3.251	1.375/34.925	0.520/3.251	0.063/3.251	.0105lb/4.9g
SK214-16N	1.000/25.400	0.608/15.443	1/8/3.251	1.375/34.925	0.520/3.251	0.063/3.251	.0110lb/5.0g
SK214-16ND	1.000/25.400	0.608/15.443	1/8/3.251	1.375/34.925	0.520/3.251	0.063/3.251	.0105lb/4.8g
SK214-16A(1)*	1.000/25.400	0.715/18.161	1/8/3.251	1.375/34.925	0.520/3.251	0.073/3.251	.0060lb/2.8g
SK214-16S	1.000/25.400	0.715/18.161	1/8/3.251	1.375/34.925	0.490/3.251	0.063/3.251	.0160lb/7.2g
SK214-16SD	1.000/25.400	0.715/18.161	1/8 Csk/3.251 Csk	1.375/34.925	0.490/3.251	0.063/3.251	.0165lb/7.5g
SK214-16SENC	1.000/25.400	0.715/18.161	1/8/3.251	1.375/34.925	0.700/17.780	0.063/3.251	.0255lb/6.48g
SK40R17-1	1.000/25.400	0.695/17.653	1/8/3.251	1.375/34.925	0.520/3.251	0.045/3.251	.0130lb/5.9g
SK40R17-2	1.000/25.400	0.695/17.653	1/8 Dimp/3.251 Dimp	1.375/34.925	0.520/3.251	0.045/3.251	.0130lb/5.9g

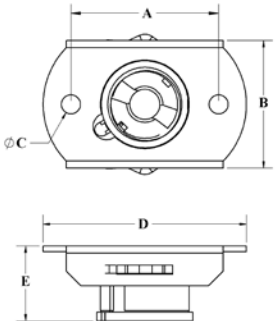
(1)* SK214-16A meets NASM5591 Tensile/Shear, cycle limited to 3500.

Part #	CamLoc® Part#	LISI Part#	Material	Finish
SK214-16	214-16	1142700	Zamac 5 Metal Casting(2)	CAD QQ-P-416
SK214-16D	214-16D	1142701	Zamac 5 Metal Casting	CAD QQ-P-416
SK214-16N	214-16N	1142723	Zamac 5 Metal Casting	CAD QQ-P-416
SK214-16ND	214-16ND	1142724	Zamac 5 Metal Casting	CAD QQ-P-416
SK214-16A(1)*	None	None	Alum6061	None
SK214-16S	214-16S	1142710	Stainless	Passivated
SK214-16SD	214-16SD	1142711	Stainless/Countersunk	Passivated
SK214-16SENC	40R12-1S		Stainless	Passivated
SK40R17-1	40R17-1	1142714(1)	Stainless	Electropolish
SK40R17-2	40R17-2	1142715(1)	Stainless	Electropolish

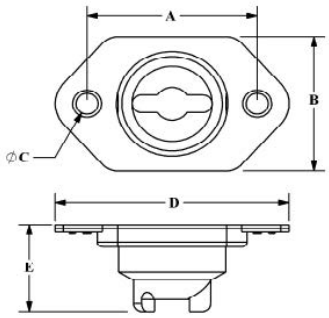
(1)* SK214-16A meets NASM5591 Tensile/Shear, cycle limited to 3500.
(2)* Advanced metal casting - lighter (40%) and stronger than industry standard parts

CLoc® SK4000 Non-Adjusting Receptacles

NASM5591 Performance Rated (unless noted) TSO-C148 Approved









SK244-161 Floating Series (Retainer Cage)

SK244-16 Floating Series 2-Piece Cage

SK244-161 Floating Series (Retainer Cage)

Part #	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	Weight Lb/Grams
SK244A161S	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0235lb/10.659g
SK244A161A	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0115lb/5.216g
SK244C161C	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0235lb/10.659g

SK244-16 Floating Series

Part #	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	Weight Lb/Grams
SK244C16C	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0190lb/6.62g
SK244C16CD	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0190lb/6.62g
SK244-16	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0190lb/6.62g
SK244-16D	1.000/25.400	0.865/21.971	1/8/3.251	1.375/34.925	0.560/14.224	.0190lb/6.62g

Maximum NASM25027 Push-Out Rating for platenuts is 125 lbs. SK244-161 tested to 130 lbs push-out.

SK244-161 Floating Series (Retainer Cage)

Part #	Revised Part#	CamLoc® Part#	Lisi Part#	Material	Finish
SK244A161S	SK244-16	None	None	Steel	Aluminum
SK244A161A	SK244-16A	None	None	Aluminum	Aluminum
SK244C161C	None	None	None	Stainless	Stainless

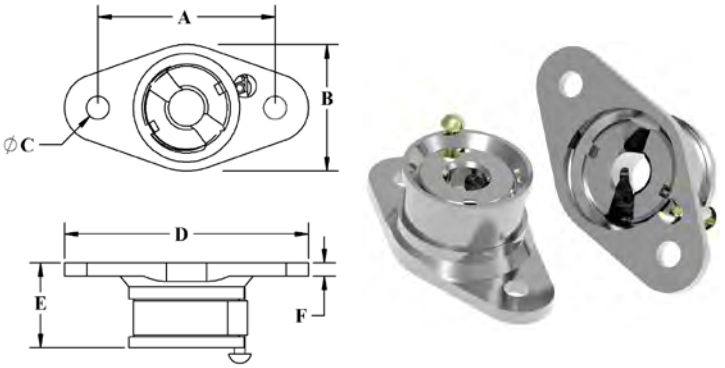
SK244-16 Floating Series (2-Piece Cage)

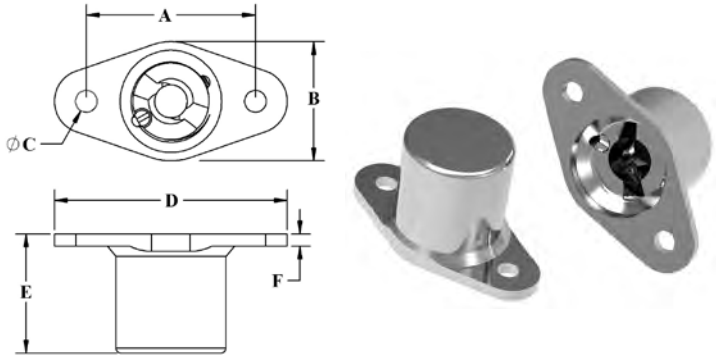
Part #	Revised Part#	CamLoc® Part#	Lisi Part#	Material	Finish
SK244C16C	None	244-16S	1142717	Stainless	Stainless
SK244C16CD	None	244-16SD	None	Stainless	Stainless
SK244-16	None	244-16	1142706	Steel	Yellow Zinc
SK244-16D	None	244-16D	1142701	Steel	Yellow Zinc

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CLoc® SK4000 Adjustable Non-Floating Series

Dash 4 and Dash 7 Series Adjustable Receptacles TSO-C148





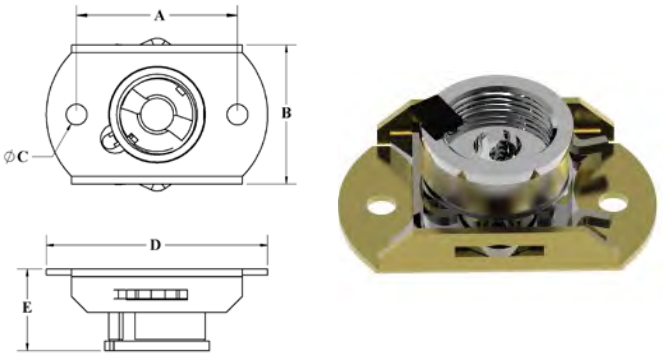
SK215-4 Series
Non-Floating
(External Locking)

SK215-7ENC Series
Non-Floating
Encapsulated
(Internal Locking)

Part #	Barrel/Insert Material	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	F dec/mm	Weight Lb/Grams
SK215-4	6061/7075	1.000	0.865	1/8	1.375	.470	.073	.012
Rivet - Straight Holes		25.400	21.971	3.251	34.925	11.938	1.854	5.44
SK215-4D	6061/7075	1.000	0.865	1/8	1.375	.470	.073	.012
Rivet - Csk Holes		25.400	21.971	3.251	34.925	11.938	1.854	5.44
SK215-4S	303/303	1.000	0.865	1/8	1.375	.470	.063	.026
Rivet - Straight Holes		25.400	21.971	3.251	34.925	11.938	1.600	11.79
SK215-4SD	303/303	1.000	0.865	1/8	1.375	.470	.063	.026
Rivet - Csk Holes		25.400	21.971	3.251	34.925	11.938	1.600	11.79
SK215-435	6061/7075	1.000	0.865	1/8	1.375	.470	.170	.0145
#4-40 Tapped Holes-Thick Base		25.400	21.971	3.251	34.925	11.938	4.318	6.58
SK215-435D	6061/7075	1.000	0.865	1/8	1.375	.470	.170	.0145
#4-40 Tapped Holes-Csk-Thick base		25.400	21.971	3.251	34.925	11.938	4.318	6.58
SK215-7ENC	6061/7075	1.000	0.865	1/8	1.375	.690	.073	.0165
Rivet-Encapsulated-Straight		25.400	21.971	3.251	34.925	17.526	1.854	7.48
SK215-7ENCD	6061/7075	1.000	0.865	1/8	1.375	.690	.073	.0165
Rivet-Encapsulated-Csk		25.400	21.971	3.251	34.925	17.526	1.854	7.48

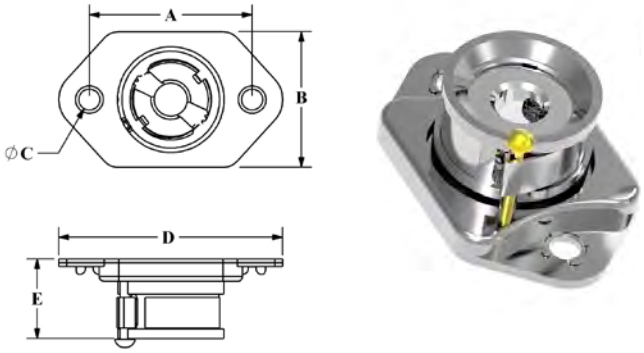
CLoc® SK4000 Adjustable Floating Series

Dash 4 and Dash 7 Series Adjustable Receptacles TSO-C148



SK245A161 Series Floating (External Locking)

(Can be installed without removing assembly)



SK245-16 Series* Floating (External Locking)

Insert depth easily adjusts in .015 incriments. One fastener (stud) length covers a total thickness range of .300 or 10 dash#s (part#s) eliminating expensive inventory. Unlimited adjustment, even without removing the panel (Dash 5). Great for Pre-Load applications. New SK245-161 Series Receptacles have 18% weight advantages over any similar design.

Adjustable – Floating – Retainer Cage Receptacle

Part #	Revised Part#	Insert Material	Cage Material	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	Weight Lb/Grams
SK245A161A	SK245-4	6061/7075	6061	1.000 25.400	.865 21.971	1/8 3.251	1.375 34.925	.510 12.954	.0160 7.26
SK245C161C	SK245-4C	303/303	302	1.000 25.400	.865 21.971	1/8 3.251	1.375 34.925	.510 12.954	.040 18.14

Adjustable – Floating – Standard 2-Piece Cage Receptacle

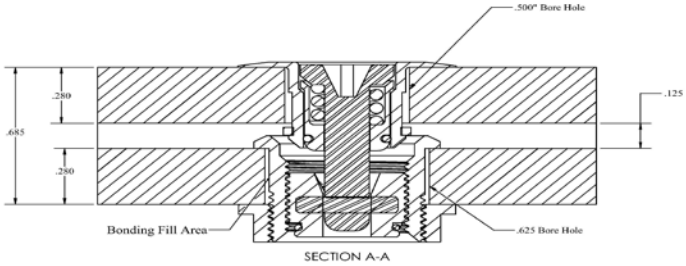
Part #	Revised Part#	Insert Material	Cage Material	A dec/mm	B dec/mm	C frac/mm	D dec/mm	E dec/mm	Weight Lb/Grams
SK245-16		12L14/12L14	ASTM A109	1.000 25.400	.840 21.336	1/8 3.251	1.375 34.925	.495 12.573	.0320 14.51
SK245-16D		12L14/12L14	ASTM A109	1.000 25.400	.840 21.336	1/8 3.251	1.375 34.925	.495 12.573	.0320 14.51
SK245C16C		303/303	305	1.000 25.400	.840 21.336	1/8 3.251	1.375 34.925	.495 12.573	.0320 14.51
SK245C16CD		303/303	305	1.000 25.400	.840 21.336	1/8 3.251	1.375 34.925	.495 12.573	.0320 14.51

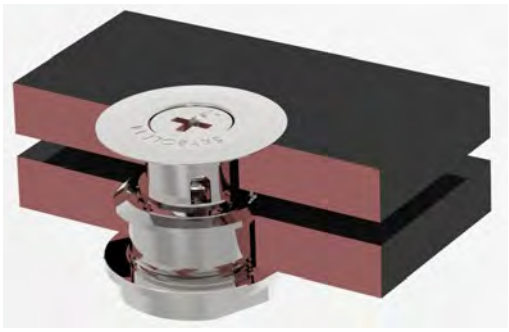
SK422 & SK247 Series

SK422 Series Honeycomb Panel Receptacle

Adjustable Receptacle - All stainless
Locking Pin accessible from face of receptacle
Variable Panel Thicknesses

Simple installation with backing nut





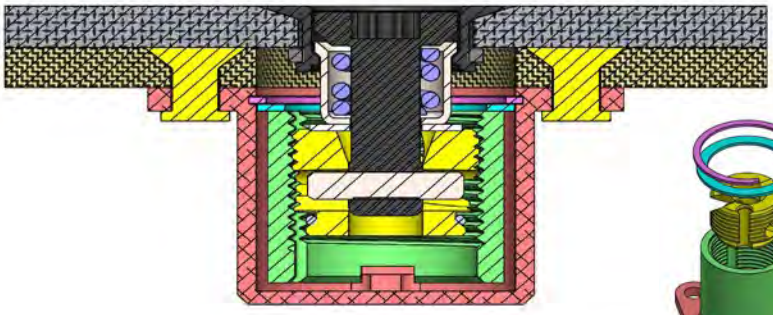


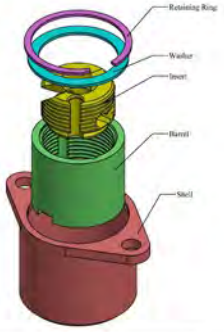
SK422-280 Shown

Part#	Support Panel Thickness	Head Protrusion	Tail Protrusion
SK422-180	.120-.220	0.063	.190 - .250
SK422-280	.220-.320	0.063	.190 - .250
SK422-380	.320-.420	0.063	.190 - .250

SK247-51ADJ 4000 Series Floating Receptacle – Encapsulated

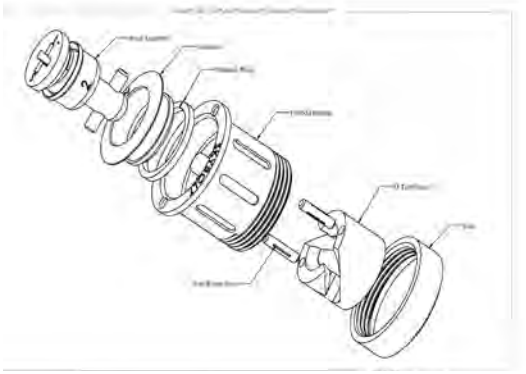
Adjustable Receptacle - Floating
Locking Pin accessible from face of receptacle











SK1835 Potted Fastener

For Honeycomb Panels
4000 Series CLoc® - Floating
NAS1835-4 Flange Size



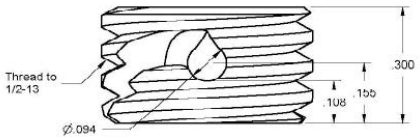
CLoc® 4000 Series Rivetless Receptacles

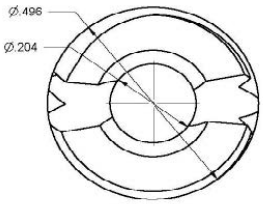
New - CLoc® Rivetless Easy Install Receptacles

SK410 Series - Adjustable Depth
Easy to Install rivetless Locking Receptacle

SK410-28S	Stainless	1/2-13 Thread	For wood, composites
SK410-29A	Aluminum	1/2-20 Thread	For non-ferrous metals
SK410-29S	Stainless	1/2-20 Thread	For metals
SK410-32S	Stainless	1/2-32 Thread	For SK4000-35032 Nutserts







'G' Outer Panel Thickness				Inner Support Panel Thickness (1)		Dash Number for SK4002 & SK40S5 Series
inches		mm		inches	mm	STUD DASH#
Min	Max	Min	Max	Min	Min	
.010	.310	0.25	7.87	0.660	16.76	-2
.040	.340	1.02	8.64	0.630	16.00	-3
.070	.370	1.78	9.40	0.600	15.24	-4
.100	.400	2.54	10.16	0.570	14.48	-5
.130	.430	3.30	10.92	0.540	13.72	-6
.160	.460	4.06	11.68	0.510	12.95	-7
.190	.490	4.83	12.45	0.480	12.19	-8
.220	.520	5.59	13.21	0.450	11.43	-9
.250	.550	6.35	13.97	0.420	10.67	-10
.280	.580	7.11	14.73	0.390	9.91	-11
.310	.610	7.87	15.49	0.360	9.14	-12
.340	.640	8.64	16.26	0.330	8.38	-13
.370	.670	9.40	17.02	0.320	8.13	-14
.400	.700	10.16	17.78	0.320	8.13	-15
.430	.730	10.92	18.54	0.320	8.13	-16
.460	.760	11.68	19.30	0.320	8.13	-17
.490	.790	12.45	20.07	0.320	8.13	-18
.520	.820	13.21	20.83	0.320	8.13	-19
.550	.850	13.97	21.59	0.320	8.13	-20
.580	.880	14.73	22.35	0.320	8.13	-21
.610	.910	15.49	23.11	0.320	8.13	-22
.640	.940	16.26	23.88	0.320	8.13	-23

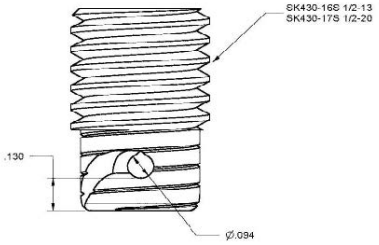
Note (1) Minimum Support Panel thickness is a value that assumes the outer panel thickness is the 'Min G' stated to the left. For every outer panel thickness value greater than the 'Min G', subtract that additional thickness from Inner Support Panel 'Min' value. Example: SK40S5-2 Stud - Outer Panel 'G' thickness is .032. (.032 - .010 = .022). Inner Support Panel 'Min' thickness is (.660 - .022 = .638). The support panel (normally) cannot be any thinner than the length of the receptacle or .320 as noted.

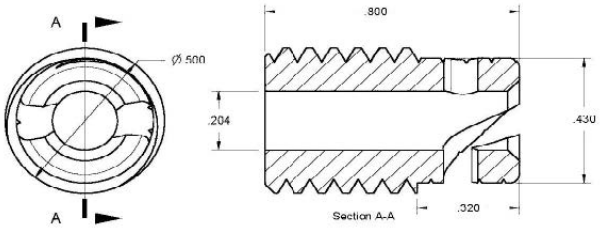
CLoc® 4000 Series Rivetless Receptacles

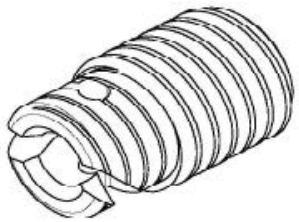
New - CLoc® Rivetless Easy Install Receptacles

SK430 Series - Adjustable Depth - Extended Nose
Easy to Install rivetless Locking Receptacle

SK430-16S	Stainless	1/2-13 Thread	For wood, composites
SK430-17S	Stainless	1/2-20 Thread	For non-ferrous metals
SK430-32S	Stainless	1/2-32 Thread	For SK4000-35032 Nutsert







	Maximum Outer Panel Thickness							
	Chart 1- Receptacle is flush with Inner Panel Face				Chart 2 - Receptacle is fully extended from Inner Panel Face (add .335* to "flush" numbers)			
All	Decimal	Decimal	mm	mm	Decimal	Decimal	mm	mm
SK4000 Series	min	max	min	max	min	max	min	max
-2S	.350	.360	8.890	9.144	.665	0.695	16.891	17.653
-3S	.360	.390	9.144	9.906	.695	0.725	17.653	18.415
-4S	.390	.420	9.906	10.668	.725	0.755	18.415	19.177
-5S	.420	.450	10.668	11.430	.755	0.785	19.177	19.939
-6S	.450	.480	11.430	12.192	.785	0.815	19.939	20.701
-7S	.480	.510	12.192	12.954	.815	0.845	20.701	21.463
-8S	.510	.540	12.954	13.716	.845	0.875	21.463	22.225
-9S	.540	.570	13.716	14.478	.875	0.905	22.225	22.987
-10S	.570	.600	14.478	15.240	.905	0.935	22.987	23.749
-11S	.600	.630	15.240	16.002	.935	0.965	23.749	24.511
-12S	.630	.660	16.002	16.764	.965	0.995	24.511	25.273
-13S	.660	.690	16.764	17.526	.995	1.025	25.273	26.035
-14S	.690	.720	17.526	18.288	1.025	1.055	26.035	26.797
-15S	.720	.750	18.288	19.050	1.055	1.085	26.797	27.559
-16S	.750	.780	19.050	19.812	1.085	1.115	27.559	28.321
-17S	.780	.810	19.812	20.574	1.115	1.145	28.321	29.083
-18S	.810	.840	20.574	21.336	1.145	1.175	29.083	29.845
-19S	.840	.870	21.336	22.098	1.175	1.205	29.845	30.607
-20S	.870	.900	22.098	22.860	1.205	1.235	30.607	31.369
-21S	.900	.930	22.860	23.622	1.235	1.265	31.369	32.131
-22S	.930	.960	23.622	24.384	1.265	1.295	32.131	32.893
-23S	.960	.990	24.384	25.146	1.295	1.325	32.893	33.655
-24S	.990	1.020	25.146	25.908	1.325	1.355	33.655	34.417
-25S	1.020	1.050	25.908	26.670	1.355	1.385	34.417	35.179

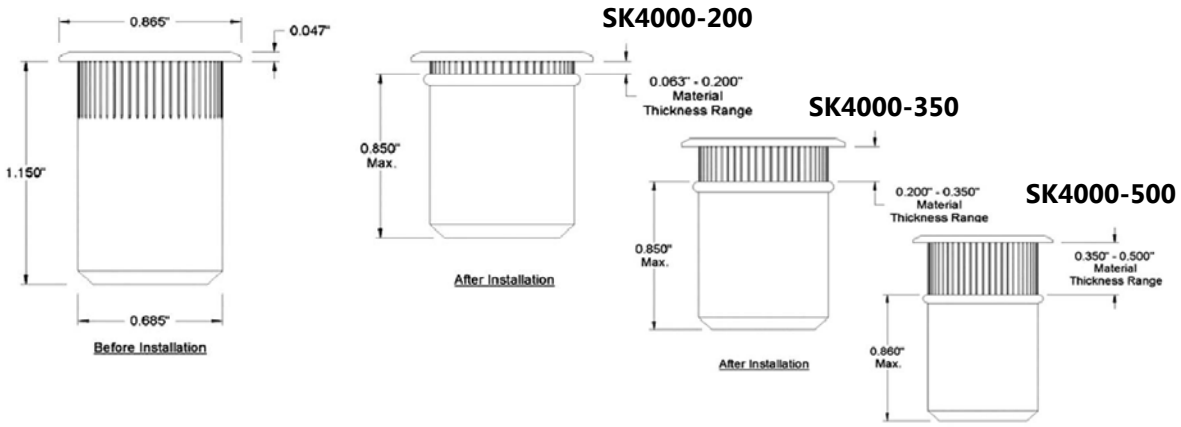
If you revert to Chart 2, using a longer stud than charted positions the SK430 receptacle back towards flush.

CLoc® 4000 Series Nutserts

SK4000-200, -350, -500 Nutserts

- Excellent for any Blind or Non-Blind Mounting Application
- Ideal Industrial Applications
- Use thread locking compound to secure insert
- Use SK410-28S or SK430-16S Inserts - Patent Pending





Part #	Thread	Material	Hole Size	Grip	Dia	Length	Flange Dia	Flange Thickness	L (Protrusion) Installed (max)
SK4000-200	1/2-13	Steel-Yellow Zinc	11/16	.063-.200	.685	1.150	.865	.047	.850
SK4000-350	1/2-13	Steel-Yellow Zinc	11/16	.200-.350	.685	1.300	.865	.047	.850
SK4000-35032	1/2-32	Steel-Yellow Zinc	11/16	.200-.350	.685	1.300	.865	.047	.850
SK4000-500	1/2-13	Steel-Yellow Zinc	11/16	.350-.500	.685	1.450	.865	.047	.860

SK4000-NST Nutsert Installation Tool

Use 271 Red Locktite® to lock threads when properly adjusted. Warning: Thread lockers set up in approximately 5 minutes. Adjust insert so that the standard stud (SK4002/40S5) head is no lower than flush with the grommet. For SK4002-FW Folding Wings, allow a minimum of .150 distance from the head surface to the grommet surface or use a .055 shim between the head and the grommet. If insert is set too deep with the stud locked, you will not be able to unlock the stud after 5 minutes.

Stud Grip Chart - SK410 Series Insert			
Standard	Folding Wing	Grip-Decimal	Grip-MM
SK4002/40S5	SK4002-FW	Min-Max	Min-Max
-2	-3	.080-.300	2.03-7.62
-3	-4	.110-.330	2.79-8.38
-4	-5	.140-.360	3.56-9.14
-5	-6	.170-.390	4.32-9.91
-6	-7	.200-.420	5.08-10.67
-7	-8	.230-.450	5.84-11.43
-8	-9	.260-.480	6.60-12.19
-9	-10	.290-.510	7.37-12.95
-10	-11	.320-.540	8.13-13.72
-11	-12	.350-.570	8.89-14.48
-12	-13	.380-.600	9.65-15.24

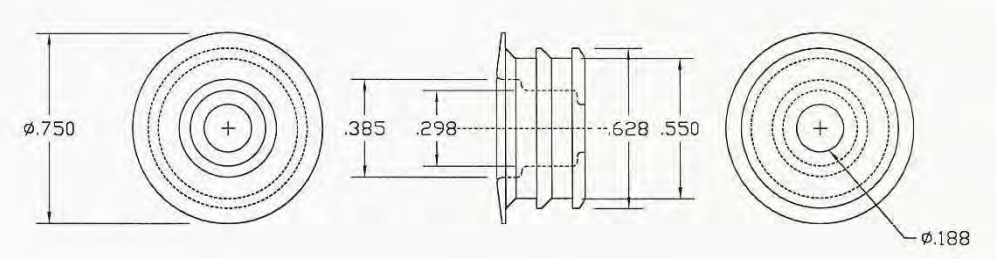
Stud Grip Chart - SK430 Series Insert			
Standard	Folding Wing	Grip-Decimal	Grip-MM
SK4002/40S5	SK4002-FW	Min-Max	Min-Max
-2	-3	.200-.600	5.08-15.24
-3	-4	.410-.630	10.41-16.00
-4	-5	.440-.660	11.18-16.76
-5	-6	.470-.690	11.94-17.53
-6	-7	.500-.720	12.70-18.29
-7	-8	.530-.750	13.46-19.05
-8	-9	.560-.780	14.22-19.81
-9	-10	.590-.810	14.99-20.57
-10	-11	.620-.840	15.75-21.34
-11	-12	.650-.870	16.51-22.10
-12	-13	.680-.900	17.27-22.86

CLoc® 4003 Series Studs

2 - Piece Series (Stud/Grommet - Locking Receptacle)

Stud/Grommet Assembly is bonded into Outer Panel

SK4003 Series



SK4003G1S Grommet - does not use separate cup like the SK4002/40S5 Series.

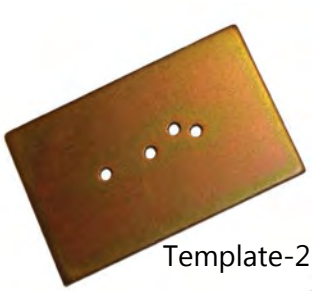


SK4003 (Stud/Grommet Assembly) used with SK430 Series receptacle

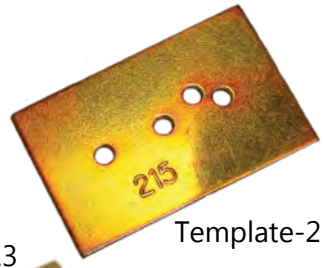
CLoc® Drill Jigs



Production Drill Jigs with Flex Handle.
SK2DJ – 2000 Receptacles (.750)
SK4DJ – 4000 Receptacles (1.00)



Template-213



Template-215



Template-245

The first step to install CLoc® Fasteners (once fastener hole position is established with a 1/8" pilot hole in outer and inner panel, as if you were installing a POP rivet), is to drill the locking receptacle mounting holes (rivet holes) and center relief holes. Skybolt® offers simple drill templates to drill receptacle rivet holes. For CLoc® 2000 Series, use Template-213 or SK2DG. Use a Unibit-1 to drill receptacle relief hole (13/32)and fastener hole (11/32)in the outer panel. For CLoc® 4000 Series, use Template-215 or SK4DG. You must use the Template-245 to drill the receptacle center relief hole (cleko from the back). Use a Unibit-3 or-4 to drill this large hole (9/16-11/16). If you attempt to drill this hole without the Template-245, the drill will "walk" and you will have an un-centered hole. For the outer panel grommet hole (4000 Series), the Unibit-1 (15/32 step) will easily expand the hole without "walking"

Note: The offset hole shown in Template-213 and -215 is to drill an optional access hole to adjust SK213-2 and SK215/SK245-4 Adjustable receptacles that use an external locking clip. It is important to note that these photos show the proper "front" face of the template (turn it over and the holes will not function with the receptacle. Use caution when drilling so that the holes are oriented properly).



Unibits-1 and
Unibit-3 or -4





SK4CS – Includes Microstop Cage
SK-2018 Portable Clamp Tool
See sample page

CLoc® Installation Tools



SK4P3 Pliers

Compress 4000 Series cup to insert stud through grommet



SK-T26 Combination Tool
(T-26 and T-98 Tools Combined)

Installs 2000 Series "2600-LWS" Retainers – or- 4000 Series SK-R4GS Grommet Retainers. Note: (a) the SK-R4G Retainer is punched towards the large end of the taper tool prior to pressing it into position with the handle. (b) this tool only works with stud not installed into the grommet (install the retainers onto the grommets 1st; then install the studs with SK-4P3 Pliers.



SK26022 Receptacle Adjustment Tool

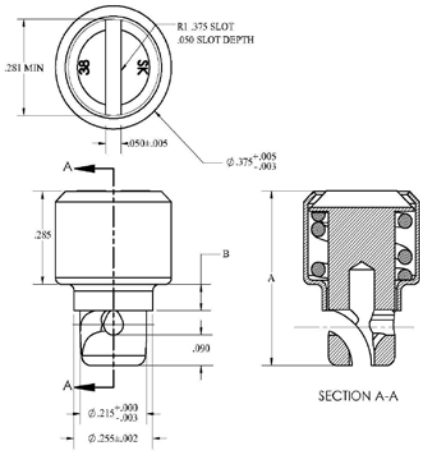
SK26022 Driver Tool is a quality screwdriver used to lock and unlock the internal locking pin for all Skybolt® Dash 7 Adjustable Receptacles and SK2003-51ADJ Adjustable Platemounts.

Skybolt® ZLoc® Stainless Avionics 35 Series

Skybolt® manufactures fasteners to the same diminsions and performance as OEM parts

The PFSC35 is a staple in commercial and military avionics panels
Skybolt® manufactures and stocks all listed part numbers





Skybolt® Stainless Passivated	Skybolt® Stainless Black Oxide	Skybolt® Stainless Airbus Blue	Skybolt® Stainless Boeing Brown	Total Length A	Skirt Length B	Grip	
						Min	Max
SK35C37	SK35C37B1	SK35C37B1B2	SK35C37B1B3	0.525	0.070	0.050	0.059
SK35C38	SK35C38B1	SK35C38B1B2	SK35C38B1B3	0.535	0.080	0.060	0.069
SK35C39	SK35C39B1	SK35C39B1B2	SK35C39B1B3	0.545	0.090	0.070	0.079
SK35C40	SK35C40B1	SK35C40B1B2	SK35C40B1B3	0.565	0.100	0.080	0.089
SK35C41	SK35C41B1	SK35C41B1B2	SK35C41B1B3	0.575	0.110	0.090	0.099
SK35C42	SK35C42B1	SK35C42B1B2	SK35C42B1B3	0.585	0.120	0.100	0.109
SK35C43	SK35C43B1	SK35C43B1B2	SK35C43B1B3	0.595	0.130	0.110	0.119
SK35C44	SK35C44B1	SK35C44B1B2	SK35C44B1B3	0.605	0.140	0.120	0.129





ZLoc® Stainless Series Fasteners

Skybolt® manufactures studs and buttons similar to existing designs. Dzus® is a registered trademark of the Dzus® Fastener Co. Skybolt® has no affiliation with Dzus® Fasteners.



Design Selection Procedure:
1. From the information in the following table, consider a Stud type.
2. Select type of retainer (grommet or GP type retainer).
3. From charts, select Stud and S Spring combination for the application.

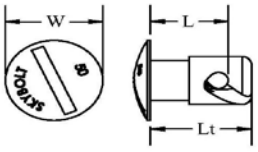
Fastener Size	-3	-4	-5	-6	-7
Locked ServiceTension (LBS)	20	30	45	55	65
Max. Tension W/O Distortion (LBS)	45	60	85	110	125
Rated Shear (LBS)	100	150	200	300	350
Wear Life (Uses)	5M	5M	25M	40M	40M

Max. sheet separation at 150% of locked service tension = 3/64"

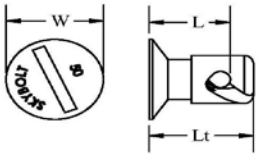
STUD MATERIAL
- Hardened Carbon Steel - Cadmium Plated per QQ-P-416, Type II, Class 2
- 300 Series Stainless (Skybolt® Stainless ZLoc® Series Fasteners are TSO-C148)

Note: Skybolt® manufactures and stocks stainless ZLoc® Series studs

Oval Head Stud
Type A and AJ

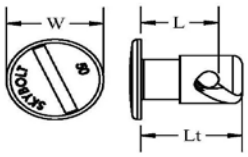


Flush Head Stud
Type F, FJ, FO*

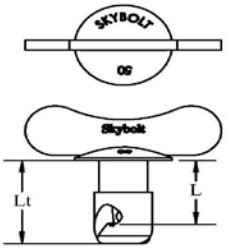


*FO Studs have no undercut

Rounded Edge
Type FA



WING HEAD STUD
Type AW,AJW,FW,FAW,FJW



Note: AJ, FJ, AJW, and FJW studs have a long undercut and are a direct replacement for A and F studs. FA studs (common to WWII aircraft) available in 303 Stainless.

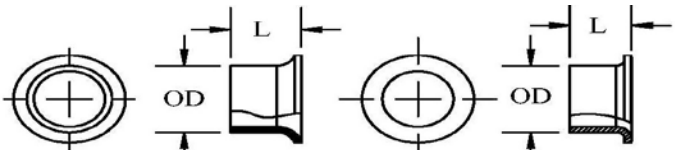
STUD RETAINERS

Type GA and GF Grommets are aluminum

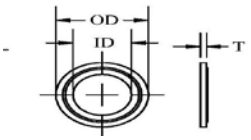
Type GP Retainer is Nylon

Type GA - Full Grommet
For use with all Studs except Flush Head

Type GF - Full Grommet
For use with Flush Head Studs (FJ Studs)

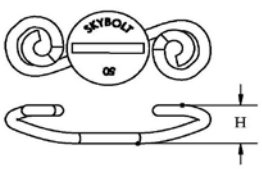


Type GP - Half Grommet
For use with all Studs



RECEPTACLE - S SPRING - Cadmium plated music wire

Type SA Spring



ZLoc® Fastener Charts

Studs

Typical Stud Size	Lt	L	Head Size W	Drill Outer Panel A max	Drill Support Panel B*	Rivet Spacing G	Rivet Size
3-25	0.325	0.250	5/16	7/32	3/8	5/8	3/32
3-30	0.375	0.300					
4-30	0.400	0.300	7/16	5/16	3/4	3/4	3/32
4-35	0.450	0.350					
4-40	0.500	0.400					
5-35	0.475	0.350	9/16	3/8	5/8	1"	1/8
5-40	0.525	0.400					
5-45	0.575	0.450					
5-50	0.625	0.500					
5-55	0.675	0.550					
6-40	0.550	0.400	5/8	7/16	1	1-3/8	1/8
6-45	0.600	0.450					
6-50	0.650	0.500					
6-55	0.700	0.550					
6.5-40	0.570	0.400	11/16	1/2	1	1-3/8	1/8
6.5-45	0.620	0.450					
6.5-50	0.670	0.500					
6.5-55	0.720	0.550					
7-40	0.575	0.400	3/4	17/32	1-1/16	1-7/16	1/8
7-50	0.675	0.500					
7-60	0.775	0.600					

Note: B* is oversize to allow relief for grommet/retainer or dimpled panels.

Grommets

Stud Size	Panel (P) Thickness	Type GA	Type GF	OD	T*	GP Plastic Retainer Type		
						GP	OD	T
3	.015-.025	GA3-175	NA	7/32	0.015	GP3B	5/16	.035
	.026-.050	GA3-200	NA					
	.051-.094	GA3-250	NA					
4	.015-.025	GA4-225	GF4-125	5/16	0.025	GP4B	7/16	.035
	.026-.050	GA4-250	GF4-150					
	.051-.075	GA4-275	GF4-175					
	.076-.100	GA4-300	GF4-200					
5	.031-.062	GA5-312	GF5-175	3/8	0.028	GP5B	9/16	.035
	.063-.094	GA5-350	GF5-225					
	.095-.125	GA5-375	GF5-250					
6	.040-.065	GA6-350	GF6-218	7/16	0.028	GP6B	5/8	.045
	.066-.100	GA6-375	GF6-250					
	.101-.135	GA6-425	GF6-300					
6.5	Max .062		GF6.5-218	1/2	0.035	GP6B	5/8	.045
	.063-.093	GA6.5-375	GF6.5-250					
	.094-.200	GA6.5-500						
7	.050-.095	GA7-375	GF7-250	17/32	0.040	NA		
	.096-.156	GA7-475	GF7-325					
	.157-.218	GA7-525	GF7-400					



S SPRING RECEPTACLES

Stud Size	Part#
Size 3	S3-150
	S3-175
Size 4	S4-200
	S4-225
Size 5	S5A-200
	S5A-225
	S5A-250
	S5A-275
	S5A-300
	S5A-325
Size 6 & 6.5	S6A-225
	S6A-250
	S6A-275
	S6A-300
	S6A-400
	S6A-425
Size 7	S7A-225
	S7A-250
	S7A-275
	S7A-300

ZLoc® Fastener Charts

Total Thickness Charts

Choose correct chart for Stud Size. Enter Total Thickness column and select Stud/Spring combination

Size 3 Stud SK3 Spring

Total Thickness	Stud Dim L	Use Spring Dim H
.045-.069	-20	-175
.070-.094	-20	-150
.095-.119	-25	-175
.120-.144	-25	-150
.145-.169	-30	-175
.170-.194	-30	-150

Size 4 Stud, SK4 Spring

Total Thickness	Stud Dim L	Use Spring Dim H
.100-.124	-30	-225
.125-.149	-30	-200
.150-.174	-35	-225
.175-.199	-35	-200
.200-.224	-40	-225
.225-.249	-40	-200

Size 5 Stud, SK5 Spring

Total Thickness	Stud Dim L	Use Spring Dim H
.055-.079	-30	-275
.080-.104	-30	-250
.105-.129	-30	-225
.130-.154	-30	-200
.155-.179	-40	-275
.180-.204	-40	-250
.205-.229	-40	-225
.230-.254	-40	-200
.255-.279	-50	-275

Size 6 & 7 Stud, SK6 & 7 Spring

Total Thickness	Stud Dim L	Use Spring Dim H
.140-.164	-40	-300
.165-.189	-40	-275
.190-.214	-40	-250
.215-.239	-40	-225
.240-.264	-50	-300
.265-.289	-50	-275
.290-.314	-50	-250
.315-.339	-50	-225
.340-.364	-60	-300

Determine Total Thickness by adding:

1. Outside Panel Thickness (P)
2. Inside (Support) Panel Thickness (Q)
3. Grommet Thickness (T) if GA or GF grommet used.
4. Allow for gasket material or paint build-up. Allow for panel face misalignment.

Principal Design Options

One usually thinks of two components as part of the ZLoc® Fastener, the Stud and Spring Receptacle. In the case of the EHF Ejector Series Stud, it is retained in the panel, when unlocked by the flange being fastened to the outside panel. Standard ZLoc® Studs, typically use a Stud retainer to prevent them from falling from the panel when unlocked.

Some helpful hints for using ZLoc® Fasteners:

1) Thicker panels require shorter Springs for a given stud. Likewise, thinner panels require a taller Spring for a given Stud.

2) When locked, the Stud slot or wing always aligns with the Spring mounting holes. Therefore, whatever angle you mount the Spring Receptacle, the Stud will align with it when locked.

3) SKEHF5 Studs should only use S5A or #5 Springs. SKEHF6 Studs can use either S5A or S6A Springs.

4) TOTAL THICKNESS is the summation of both the outside and inside panels plus allowances for gaskets, grommets, interference or panels that do not lay flat together. Panel facing can add greatly to charted values.

5) If springs are mounted to Weld Tabs or Plates, the Tab serves as the Inside Panel and adds .100 to Total Thickness

6) If locking torque is too tight or too loose, bend the spring with Skybolt® Tool SK-7302. See below.

7) The Part number of a ZLoc® stud is the L Dimension measured from the head (beneath the head for Oval Head, on the top of the head for Flat Head) to the far end of the slot where the spring rests when locked. SKF65-50 is .50 from the flat of the head to the end of the slot saddle.

8) The Part number of the Spring is the height of the Spring. SK6-375 is .375 high.

ALoc® Series Fasteners

AirLoc® Replacement TSO-C148

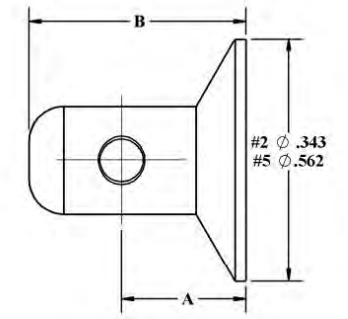
ALoc® Fasteners are common on Beechcraft® airplanes and latches on many cowlings. The design consists of a simple stud with a pin pressed in the shank. The pin must be installed after the stud is installed and removed prior to removing the stud. Some panel applications for #2, #5, and #7 studs may use a wear grommet. Unlike a ZLoc® Fastener, this grommet probably does not require replacement when replacing studs. ALoc® Fasteners are made in various stud blank lengths and this length is indicated by the 1st Dash#. Each length can have up to 10 2nd Dash#s, or grip sizes. The 2nd Dash# indicates the maximum grip range in .010 increments. Note that the ALoc® design has the least grip range of all 1/4 turn fasteners. Skybolt® primarily stocks certain sizes in Stainless Steel for replacement purposes only. See Conversion Kits for STCd ALoc® to CLoc® (CamLoc® style) conversions.

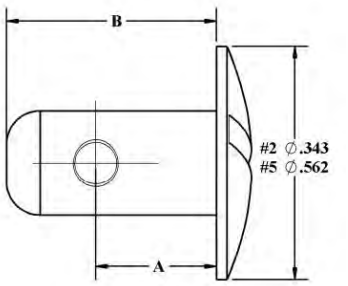
ALoc® Studs

Series	Flush Steel Hd#	Round Steel Hd#	Head Dia	Pin#	CLoc® Conversion
1	294426	294422	1/4	294424	
2	98264	98293	11/32	SK99785-2	2000 Series
5	98265	98292	9/16	SK99836	4000 Series
7	98266	98291	11/16	99799	



AirLoc® Steel Part#	Skybolt® ALoc® Stainles Part#	Type	Grip	'A'	Length
98264-2-090	SK112060-1-090	#2 Flush	.081-.090	.230	.359
98293-1-060	SK98293-1-060SS	#2 Round	.051-.060	.200	.359
98265-1-070	SK294186-1-070	#5 Flush	.061-.070	.257	500
98265-1-080	SK294186-1-080	#5 Flush	.071-.080	267	.500
98265-1-100	SK294186-1-100	#5 Flush	.091-.100	.287	.500
98265-2-180	SK294186-2-180	#5 Flush	.171-.180	.367	.609
98265-2-190	SK294186-2-190	#5 Flush	.181-.190	.377	.609
98265-2-200	SK294186-2-200	#5 Flush	.191-.200	.387	.609
98265-2-210	SK294186-2-210	#5 Flush	.201-.210	.397	.609
98265-2-230	SK294186-2-230	#5 Flush	.220-.230	.417	.609
98265-2-240	SK294186-2-240	#5 Flush	.231-.240	.427	.609
98265-2-250	SK294186-2-250	#5 Flush	.241-.250	.437	.609
98292-1-080	SK294290-1-080	#5 Round	.071-.080	.267	.500
98292-1-090	SK294290-1-090	#5 Round	.081-.090	.277	.500
98292-2-170	SK294290-2-170	#5 Round	.161-.170	.357	.609
98292-2-250	294290-2-250	#5 Round	.241-.250	.437	.609





See www.skybolt.com for complete list.

ALoc® Grommets

Series	Panel Thickness	Flush Hd#	Round Hd#
1	None		
2	Up to .040	295846-1	
	.041-.080	295846-2	98013
5	.040-.121	295250-1	295902
	.122-.201	295250-2	99874-1
7	Up to .040	295900-1	99874-2
	.041-.121	295900-2	295899-1
			295899-2

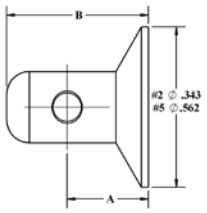
ALoc® Receptacles

Series	Solid, Plain Receptacle	Csk	Plain Floating Rec	Csk	Rivet	Rivet Space
1	294420-P067	294420-C067			1/16	1/2
	294420-P098				3/32	1/2
2	99871-P098	98871-C098		99967-C098	3/32	3/4
5	99833-P098	99833-C098	99947-P098	99947-C098	3/32	1.0
	99833-P130	99833-C130	99947-P130	99947-C130	1/8	1.0
7	99797-P098	99797-C098			3/32	1-3/8
	99797-P130	99948-P130	99948-P130	99948-C130	1/8	1-3/8

#2 ALoc® Stud Identification

Attempting to determine the proper dash number for an AirLoc® fastener can be very frustrating when layers of paint completely obstruct the head stamping. Take for instance, King Air Nose panels; The Beech IPC will call out certain sizes for each panel. But the IPC does not call out the location. And the IPC can be wrong. Therefore, you must be able to determine the stud dash number for each location on a panel ***before removing the old studs.*** **Skybolt® has developed this chart to determine the stud dash number by measuring the stud installed in the panel. Measured 'C'**





Measuring #2 ALoc® (AirLoc®) Studs (Installed in panel)

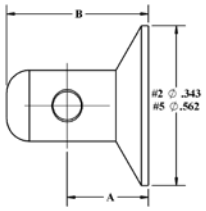
Charted C Dim	Measured C Dim (1)	Steel Basic#	Stainless Basic#	Blank Size	Dash#	Charted A Dim	Charted B Dim	Pin Dia
0.211	0.221	98264	SK112060	-1	.040	0.180	0.359	0.063
0.221	0.231	98264	SK112060	-1	.050	0.190	0.359	0.063
0.231	0.241	98264	SK112060	-1	.060	0.200	0.359	0.063
0.241	0.251	98264	SK112060	-1	.070	0.210	0.359	0.063
0.251	0.261	98264	SK112060	-1	.080	0.220	0.359	0.063
0.261	0.271	98264	SK112060	-1	.090	0.230	0.359	0.063
0.271	0.281	98264	SK112060	-1	.100	0.240	0.359	0.063
0.281	0.291	98264	SK112060	-2	.110	0.250	0.516	0.063
0.291	0.301	98264	SK112060	-2	.120	0.260	0.516	0.063
0.301	0.311	98264	SK112060	-2	.130	0.270	0.516	0.063
0.311	0.321	98264	SK112060	-2	.140	0.280	0.516	0.063
0.321	0.331	98264	SK112060	-2	.150	0.290	0.516	0.063
0.331	0.341	98264	SK112060	-2	.160	0.300	0.516	0.063
0.341	0.351	98264	SK112060	-2	.170	0.310	0.516	0.063
0.351	0.361	98264	SK112060	-2	.180	0.320	0.516	0.063
0.361	0.371	98264	SK112060	-2	.190	0.330	0.516	0.063
0.371	0.381	98264	SK112060	-2	.200	0.340	0.516	0.063
0.381	0.391	98264	SK112060	-2	.210	0.350	0.516	0.063
0.391	0.401	98264	SK112060	-2	.220	0.360	0.516	0.063
0.401	0.411	98264	SK112060	-2	.230	0.370	0.516	0.063
0.411	0.421	98264	SK112060	-2	.240	0.380	0.516	0.063
0.421	0.431	98264	SK112060	-2	.250	0.390	0.516	0.063
0.431	0.441	98264	SK112060	-3	.260	0.400	0.656	0.063
0.441	0.451	98264	SK112060	-3	.270	0.410	0.656	0.063
0.451	0.461	98264	SK112060	-3	.280	0.420	0.656	0.063
0.461	0.471	98264	SK112060	-3	.290	0.430	0.656	0.063
0.471	0.481	98264	SK112060	-3	.300	0.440	0.656	0.063

Note (1) - Measured 'C' Dim assumes .010 paint on head of stud. AirLoc® stud lengths (dash #'s) vary by only .010 - very difficult to measure. Measure both sides of pin for accuracy. From Measured 'C' Dim (average), read to the right to determine complete part number. Example: 'C' measures .259 and .263; the stainless part number is SK112060-1-80. See "INSTRUCTIONS" at www.skybolt.com.

#5 ALoc® Stud Identification

Attempting to determine the proper dash number for an AirLoc® fastener can be very frustrating when layers of paint completely obstruct the head stamping. Take for instance, King Air Nose panels; The Beech IPC will call out certain sizes for each panel. But the IPC does not call out the location. And the IPC can be wrong. Therefore, you must be able to determine the stud dash number for each location on a panel ***before removing the old studs.*** **Skybolt® has developed this chart to determine the stud dash number by measuring the stud installed in the panel. Measured 'C'**





Measuring #5 ALoc® (AirLoc®) Studs (Installed in panel)

Charted C Dim	Measured C Dim (1)	Steel Basic#	Stainless Basic#	Blank Size	Dash#	Charted A Dim	Charted B Dim	Pin Dia
0.276	0.286	98265	SK294186	-1	.040	0.227	0.500	0.097
0.286	0.296	98265	SK294186	-1	.050	0.237	0.500	0.097
0.296	0.306	98265	SK294186	-1	.060	0.247	0.500	0.097
0.306	0.316	98265	SK294186	-1	.070	0.257	0.500	0.097
0.316	0.326	98265	SK294186	-1	.080	0.267	0.500	0.097
0.326	0.336	98265	SK294186	-1	.090	0.277	0.500	0.097
0.336	0.346	98265	SK294186	-1	.100	0.287	0.500	0.097
0.346	0.356	98265	SK294186	-1	.110	0.297	0.500	0.097
0.356	0.366	98265	SK294186	-1	.120	0.307	0.500	0.097
0.366	0.376	98265	SK294186	-1	.130	0.317	0.500	0.097
0.376	0.386	98265	SK294186	-1	.140	0.327	0.500	0.097
0.386	0.396	98265	SK294186	-1	.150	0.337	0.500	0.097
0.396	0.406	98265	SK294186	-2	.160	0.347	0.609	0.097
0.406	0.416	98265	SK294186	-2	.170	0.357	0.609	0.097
0.416	0.426	98265	SK294186	-2	.180	0.367	0.609	0.097
0.426	0.436	98265	SK294186	-2	.190	0.377	0.609	0.097
0.436	0.446	98265	SK294186	-2	.200	0.387	0.609	0.097
0.446	0.456	98265	SK294186	-2	.210	0.397	0.609	0.097
0.456	0.466	98265	SK294186	-2	.220	0.407	0.609	0.097
0.466	0.476	98265	SK294186	-2	.230	0.417	0.609	0.097
0.476	0.486	98265	SK294186	-2	.240	0.427	0.609	0.097
0.486	0.496	98265	SK294186	-2	.250	0.437	0.609	0.097
0.496	0.506	98265	SK294186	-3	.260	0.447	0.719	0.097
0.506	0.516	98265	SK294186	-3	.270	0.457	0.719	0.097
0.516	0.526	98265	SK294186	-3	.280	0.467	0.719	0.097
0.526	0.536	98265	SK294186	-3	.290	0.477	0.719	0.097
0.536	0.546	98265	SK294186	-3	.300	0.487	0.719	0.097

Note (1) - Measured 'C' Dim assumes .010 paint on head of stud. AirLoc® stud lengths (dash#s) vary by only .010 - very difficult to measure. Measure both sides of pin for accuracy. From Measured 'C' Dim (average), read to the right to determine complete part number. Example: 'C' measures .342 and .348; the stainless part number is SK294186-1-100 .
See "INSTRUCTIONS" at www.skybolt·com

Dimpling and Staking Tools

Skybolt® ® has revolutionized panel dimpling and various fastener staking of grommets. Our tool system is designed to be used in a portable clamp tool and a production Arbor Press. All common dimple tools adapt into our system. All Skybolt® staking tools for ZLoc®, ALoc®, Dzus®, and AirLoc® grommets are designed into our system. Our tool adapters fit the new Skybolt® SK-2018 Portable Clamp Tool and most common 2-Ton Arbor Presses. All tooling is interchangeable between the portable clamp and the Arbor Press



For production, use Skybolt® tool dies with common 2-ton Arbor Presses.
For installation video,
see www.skybolt.com/Instructions -or- https://youtu.be/2r0-D3k7UZs



For portable field repair, use Skybolt® tool dies with the Skybolt® SK-2018 Clamp as shown here installing new ZLoc® studs/grommets on a Beech Bonanza.

Skybolt® Tool	OEM Tool	Description		
SK2018C*		Clamp (less dies and 3/8 drive Ratchet Handle)		
SK2018-2AP		2-Ton Arbor Press		
SK2018-A2*		Press adapter for all Skybolt® die sets		
SK2018-DA1*		Dimple Adapter Set for all .187 shank die sets. For Clamp and Press		
SK2018A3*		ZLoc® and Dzus® #3 Oval	4 Tools	Installs grommet/stud assembly
SK2018F3*		ZLoc® and Dzus® #3 Flush	2 Tools	Installs grommet/stud assembly
SK2018A4*		ZLoc® and Dzus® #4 Oval	4 Tools	Installs grommet/stud assembly
SK2018F4*		ZLoc® and Dzus® #4 Flush	2 Tools	Installs grommet/stud assembly
SK2018A5**		ZLoc® and Dzus® #5 Oval	4 Tools	Installs grommet/stud assembly
SK2018F5*		ZLoc® and Dzus®#5 Flush	2 Tools	Installs grommet/stud assembly
SK2018A6*		ZLoc® and Dzus® #6 Oval	4 Tools	Installs grommet/stud assembly
SK2018F6*		ZLoc® and Dzus® #6 Flush	2 Tools	Installs grommet/stud assembly
SK2018A65*		ZLoc® and Dzus® #6.5 Oval	4 Tools	Installs grommet/stud assembly
SK2018F65*		ZLoc® and Dzus® #6.5 Flush	2 Tools	Installs grommet/stud assembly
SK2018A7		ZLoc® and Dzus® #7 Flush	4 Tools	Installs grommet/stud assembly
SK2018F7		ZLoc® and Dzus® #7 Flush	2 Tools	Installs grommet/stud assembly
SK2018-35	TP35AHT TTPT35A	Crimp ZLoc® 35/Dzus® PFSC35 Series avionics studs		
SK2018-26	2S200M/2S200F	CLoc®/CamLoc® Dimple tool for 2700/2800 Series Studs (Panels up to .072 - Drill .213 hole)		
SK2018-40	4G200M/4G200F	CLoc®/CamLoc® Dimple tool for G and H Grommets (Panels up to .086 - Drill .4687 hole)		
SK29695*	29693/29695	ALoc® and AirLoc® #2 Flush	2 Tools	
SK29667*	9529/29667	ALoc® and AirLoc® #5 Flush	2 Tools	
SK29770*	9529/29770	ALoc® and AirLoc® #5 Round	2 Tools	
SK2018 Set	Complete FBO Aircraft Tool Set - Includes all items in **BOLD***. Does not include common .187 dimple dies.			



*Note: SK2018A5 Tools with SK2018C Clamp specifically Designed to install #5 Oval Studs on Beech Bonanza cowling.

ZLoc® Tools

Skybolt® ZLoc® Spring Tools

Skybolt® ® created the tools to "adjust" ZLoc® and Dzus® springs to accommodate variable panel thickness. The Dzus® fastening system is unique in that both the stud and the spring receptacle are available in variable grip ranges. By "adjusting" the spring height, many options are available for the application. As panel thickness and alignment vary, sometimes widely, by adjusting a given spring height, we can use one stud length and one spring to accommodate a variety of total thicknesses or grips in a given panel. Adjusting spring height allows one to tighten or loosen locking tension to the ideal setting.

SK-7302





SK-7301 – Compact Tool for Tight Places

Skybolt® developed this handy spring adjusting tool to effectively adjust spring depth. The SK7301 Tool eliminates the need for various length buttons (ZLoc® studs). Think about it. One stud size fits all hole applications! And, with properly adjusted springs, you eliminate troublesome fasteners that are either too tight or too loose. The Skybolt® SK7301 tool can adjust springs outward without removing the outside panel and will not bend or even mar the thinnest panel or the finest paint. To tighten springs, The SK7301 Tool is designed to pull against the spring legs, even with rivets in place. The SK7301 tool is designed for not only the chassis fabricator, it is designed for the car owner or aircraft owner as well. The SK7301 fits both #5 and #6 springs. It works great in compact areas.







Skybolt® ZLoc® Dimple and Driver

SK-DT1 Panel Dimpling Tool

Dimple any .375 diameter hole 100 to 120 degrees. Use with Size 5, 6, or ZGF65 Series studs. Simply place dies on oppostite sides of the panel, insert bolt-nut, and tighten to desired depth.

SK-DT2 Panel Dimpling Tool

Dimple panels for SK221 CLoc® Flush Receptacles.



SK-Driver

The best and most effective ZLoc® and Dzus® Driver on the market.



Southco® 1/4 Turn Fasteners

Southco® Fasteners are very common to Cessna Airplanes.
This product was previously known as a Lions Fastener.

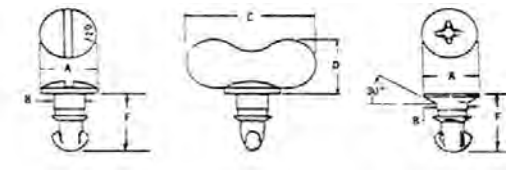
Series	A	C	D
#82	.375	7/8	7/16
#85	.562	1-1/8	7/16

#82 Oval Head Studs - Convert to CLoc® 2000 Series

Total Material Thickness	Slotted		Phillips		'F'
	Steel	Stainless Steel	Steel	Stainless Steel	
.070-.089	82-11-080-16	82-11-080-20	82-19-080-16	82-19-080-20	.375
.090-.109	82-11-100-16	82-11-100-20	82-19-100-16	82-19-100-20	.395
.110-.129	82-11-120-16	82-11-120-20	82-19-120-16	82-19-120-20	.415
.130-.149	82-11-140-16	82-11-140-20	82-19-140-16	82-19-140-20	.435
.150-.169	82-11-160-16	82-11-160-20	82-19-160-16	82-19-160-20	.455
.170-.189	82-11-180-16	82-11-180-20	82-19-180-16	82-19-180-20	.475
.190-.209	82-11-200-16	82-11-200-20	82-19-200-16	82-19-200-20	.495
.210-.229	82-11-220-16	82-11-220-20	82-19-220-16	82-19-220-20	.515
.230-.249	82-11-240-16	82-11-240-20	82-19-240-16	82-19-240-20	.535
.250-.269	82-11-260-16	82-11-260-20	82-19-260-16	82-19-260-20	.555
.270-.289	82-11-280-16	82-11-280-20	82-19-280-16	82-19-280-20	.575
.290-.309	82-11-300-16	82-11-300-20	82-19-300-16	82-19-300-20	.595

#82 Flush Head Studs - Convert to CLoc® 2000 Series

Total Material Thickness	Slotted		Phillips		'F'
	Steel	Stainless Steel	Steel	Stainless Steel	
.070-.089	82-14-080-16	82-14-080-20	82-28-080-16	82-28-080-20	.375
.090-.109	82-14-100-16	82-14-100-20	82-28-100-16	82-28-100-20	.395
.110-.129	82-14-120-16	82-14-120-20	82-28-120-16	82-28-120-20	.415
.130-.149	82-14-140-16	82-14-140-20	82-28-140-16	82-28-140-20	.435
.150-.169	82-14-160-16	82-14-160-20	82-28-160-16	82-28-160-20	.455
.170-.189	82-14-180-16	82-14-180-20	82-28-180-16	82-28-180-20	.475
.190-.209	82-14-200-16	82-14-200-20	82-28-200-16	82-28-200-20	.495
.210-.229	82-14-220-16	82-14-220-20	82-28-220-16	82-28-220-20	.515
.230-.249	82-14-240-16	82-14-240-20	82-28-240-16	82-28-240-20	.535
.250-.269	82-14-260-16	82-14-260-20	82-28-260-16	82-28-260-20	.555
.270-.289	82-14-280-16	82-14-280-20	82-28-280-16	82-28-280-20	.575
.290-.309	82-14-300-16	82-14-300-20	82-28-300-16	82-28-300-20	.595



#82 Wing Head Studs

Total Material Thickness	Steel	Stainless Steel	'F'
.070-.089	82-12-080-16	82-12-080-20	.375
.090-.109	82-12-100-16	82-12-100-20	.395
.110-.129	82-12-120-16	82-12-120-20	.415
.130-.149	82-12-140-16	82-12-140-20	.435
.150-.169	82-12-160-16	82-12-160-20	.455
.170-.189	82-12-180-16	82-12-180-20	.475
.190-.209	82-12-200-16	82-12-200-20	.495
.210-.229	82-12-220-16	82-12-220-20	.515
.230-.249	82-12-240-16	82-12-240-20	.535
.250-.269	82-12-260-16	82-12-260-20	.555
.270-.289	82-12-280-16	82-12-280-20	.575
.290-.309	82-12-300-16	82-12-300-20	.595

Southco® 1/4 Turn Fasteners

#85 Studs - Convert to CLoc® 4000 Series

Total Material Thickness	Slotted		Phillips		'F'
	Steel	Stainless Steel	Steel	Stainless Steel	
.070-.089	85-11-080-16	85-11-080-20	85-14-080-16	85-14-080-20	.525
.090-.109	85-11-100-16	85-11-100-20	85-14-100-16	85-14-100-20	.545
.110-.129	85-11-120-16	85-11-120-20	85-14-120-16	85-14-120-20	.565
.130-.149	85-11-140-16	85-11-140-20	85-14-140-16	85-14-140-20	.585
.150-.169	85-11-160-16	85-11-160-20	85-14-160-16	85-14-160-20	.605
.170-.189	85-11-180-16	85-11-180-20	85-14-180-16	85-14-180-20	.625
.190-.209	85-11-200-16	85-11-200-20	85-14-200-16	85-14-200-20	.645
.210-.229	85-11-220-16	85-11-220-20	85-14-220-16	85-14-220-20	.665
.230-.249	85-11-240-16	85-11-240-20	85-14-240-16	85-14-240-20	.685
.250-.269	85-11-260-16	85-11-260-20	85-14-260-16	85-14-260-20	.705
.270-.289	85-11-280-16	85-11-280-20	85-14-280-16	85-14-280-20	.725
.290-.309	85-11-300-16	85-11-300-20	85-14-300-16	85-14-300-20	.745

#85 Wing Head Studs

Total Material Thickness	Steel	Stainless Steel	'F'
.070-.089	85-12-080-16	85-12-080-20	.525
.090-.109	85-12-100-16	85-12-100-20	.545
.110-.129	85-12-120-16	85-12-120-20	.565
.130-.149	85-12-140-16	85-12-140-20	.585
.150-.169	85-12-160-16	85-12-160-20	.605
.170-.189	85-12-180-16	85-12-180-20	.625
.190-.209	85-12-200-16	85-12-200-20	.645
.210-.229	85-12-220-16	85-12-220-20	.665
.230-.249	85-12-240-16	85-12-240-20	.685
.250-.269	85-12-260-16	85-12-260-20	.705
.270-.289	85-12-280-16	85-12-280-20	.725
.290-.309	85-12-300-16	85-12-300-20	.745

Retainers

Split Ring Stainless



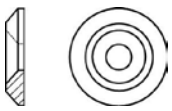
Part#
82-32-101-20
85-34-101-20

Push-On Stainless



Part#
82-32-201-20
85-34-201-20

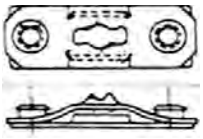
CupWasher Nylon



Part#	Alt Part#
82-46-101-39	NAS1515-H-4L
85-46-101-39	NAS1515-H-5L

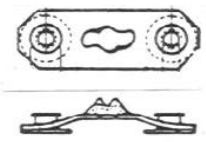
Receptacles

#82 - 3/32 Rivets - .750 Spacing
#85 - 1/8 Rivets - 1.0 Spacing



Leaf Spring with Base

Part#	Material
82-35-302-15	Steel
85-35-295-15	Steel
85-35-295-20	Stainless



Leaf Spring with Base

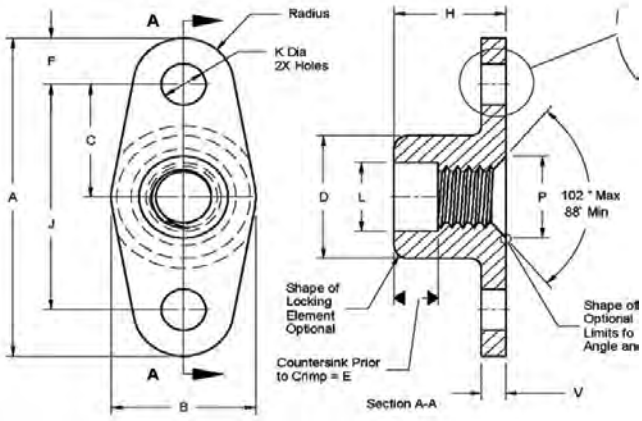
Part#	Material
82-35-295-15	Steel
82-35-295-20	Stainless

Skybolt® ® MS21078 Platenuts

Nylon Insert Platenuts - 6061 Aluminum - Steel

- Lightweight - Equivalent to Allmetal-Crimp Nuts
- Will not gall screw threads like allmetal platenuts
- Adds structure to panel
- Precision machined





Part#	A	B	H	D	Rivet	J
MS21078-04	.970	.404	.215	.373	3/32	11/16
MS21078-06	.970	.404	.255	.373	3/32	11/16
MS21078-08	.970	.404	.285	.373	3/32	11/16
MS21078-3	.970	.404	.295	.373	3/32	11/16
MS21078-3-8	.970	.406	.295	.373	1/8	11/16
MS21078-324	.970	.406	.295	.373	1/8	11/16
MS21078-324-8	.970	.406	.295	.373	1/8	11/16
MS21078-420-8S	.970	.406	.295	.373	1/8	11/16
MS21078-420-8L	1.296	.516	.250	.465	1/8	1.000
MS21078-428-L	1.296	.516	.250	.465	1/8	1.000
MS21078-428-8S	.970	.406	.250	.465	3/32	11/16
MS21078-428-8L	1.296	.516	.250	.465	1/8	1.000

Example Part #s
MS21078-3 12L14 Steel ASTM A29, A108 - Yellow Zinc plate
MS21078-3A 6061 T651 Aluminum ASTM B221-12 - No plating

MS21078	Marking	AN366	NAS1032		Lbs. Alum	Grams Alum
MS21078-04	4	NA	NAS1023N04	#440 3/32 Rivets 11/16 Spacing 750 Axial Load	.0035	1.587
MS21078-06	6	AN366-F632A	NAS1023N06	#632 3/32 Rivets 11/16 Spacing 1130 Axial Load	.0035	1.587
MS21078-08	2 or 8	AN366-F832A	NAS1023N08	#832 3/32 Rivets 11/16 Spacing 1720 Axial Load	.0035	1.587
MS21078-3	3	AN366-F1032A	NAS1023N3	#10-32 3/32 Rivets 11/16 Spacing 2460 Axial Load	.0035	1.587
MS21078-3-8	3	NA	NA	#10-32 1/8 Rivets 11/16 Spacing 2460 Axial Load	.0035	1.587
MS21078-324	34			#10-24 3/32 Rivets 11/16 Spacing 2460 Axial Load	.0035	1.587
MS21078-324-8	34			#10-24 1/8 Rivets 11/16 Spacing 2460 Axial Load	.0035	1.587
MS21078-420-8S	20	NA	NA	1/4-20 1/8 Rivets 11/16 Spacing(S) 4580 Axial Load	.0045	2.041
MS21078-420-8L	20			1/4-20 1/8 Rivets 1.00 Spacing(L) 4580 Axial Load	.0045	2.041
MS21078-428-L	28	AN366-F428A	NAS1023N4	1/4-28 3/32 Rivets 1.00 Spacing(L) 4580 Axial Load	.0055	2.041
MS21078-428-8S	28	NA	NA	1/4-28 1/8 Rivets 11/16 Spacing(S) 4580 Axial Load	.0055	2.041
MS21078-428-8L	28	NA	NA	1/4-28 1/8 Rivets 1.00 Spacing(L) 4580 Axial Load	.0055	2.041

Skybolt® Armorloc® Fasteners

Key Skybolt® Defense Conversions – Skybolt® Engineering has developed several retro-fit quick acting fastening systems for several defense vehicles. Many times, one of the first criteria is that our design fits the existing holes and configuration with little to no modification of the vehicle. In each case, our designs met all criteria including armor grade fasteners (Armorloc®). Improved lead times and costs objectives were always met on schedule and on budget.

Skybolt® 's defense engineering department has deployed top of the line Fasteners for Air, Land, and Sea combat and rescue vehicles. Our parts have been designed to enhance:

- Stryker Fighting Vehicle
- Bradley Fighting Vehicle
- MQ1 and MQ9 UAVs for Air Force and Army
- Sikorsky Helicopters
- Coast Guard Cutter
- Joint Light Tactical Vehicle

Skybolt® works with all branches of the military to design and mass produce the strongest and most accessible quarter turn fasteners on the market.



Skybolt® Commercial Fasteners

You will find Skybolt® designs on Commercial Vehicles, particularly LNG vehicles throughout Southern California and the entire United States. Our unique Folding Wing fastener is designed for applications, is adjustable, and utilizesa patent pending Nutsert. This makes an effective One-Size-Fits-All fastening system that is perfect for heavy commercial applications.

Let Skybolt® show your company that perfect design, tailored for your application.









SKYBOLT

AEROSPACE FASTENERS



Skybolt® Racing Fasteners

Skybolt® has served the Aerospace and Automotive Racing industries since 1982 through distribution and manufacturing of high quality, traceable, aerospace fasteners.

We specialize in ¼-Turn Panel and Cowling fasteners in steel, 303 stainless and our unique lightweight, high strength Skytanium® materials.

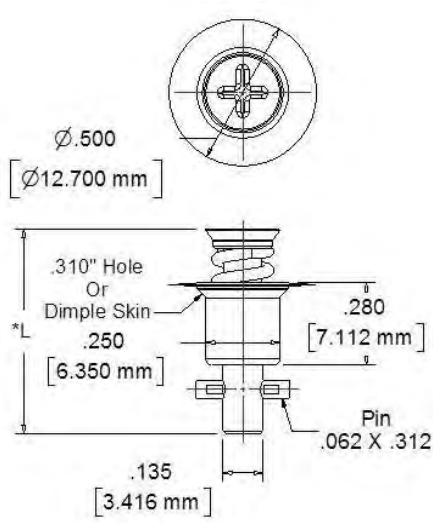
The unique Skybolt® Skytanium® Series Quick Release Fasteners target a 50% weight advantage with steel strength ratings. These engineering breakthroughs have become an industry standard, from Airbus to NASCAR, NASA to NHRA and IndyCar.

If it flies, races, or launches, it probably has a Skybolt® fastener on it. Skybolt® has set the "Rolex" standard for "Quick Release Fastener" manufacturing. A Skybolt® fastener has quality you can see with performance you can feel.

CLoc® SK2800 Flush Head Series

3 - Piece Series (Stud/Retainer - Locking Receptacle)
Most Commonly used NASCAR Fasteners

- TSO-C148 Approved. Designed to Exceed NASM5591 Table II Performance
- Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate




ZG2800


SK28T3
ZG28T3

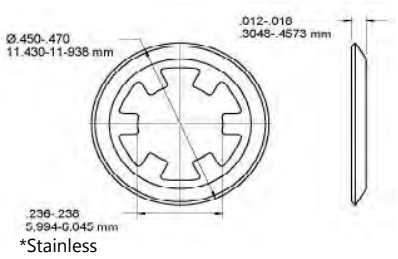
Note: 2800 Series Studs will not fit SK212-10 Series Receptacles. Use SK212-12 or SK213 Series Receptacle

SK212 Series Fixed Depth Receptacle Combined Panels				**SK213-1* and -2 Series** Adjustable Depth Combined Panels				Total Stud Length (L)		**Flush Head 2800 Series Studs**		
Decimal		Millimeter		Decimal		Millimeter		Decimal	Millimeter	Stainless Phillips	Skytanium® Phillips	Skytanium® #15 Torx (3)
Min	Max	Min	Max	Min	Max	Min	Max					
.010	.029	0.254	0.737	.020	.270	0.508	6.858	.610	15.494	SK28S3-1S	ZG28S3-1	ZG28T3-1
.030	.059	0.762	1.499	.020	.300	0.508	7.620	.640	16.256	SK28S3-2S	ZG28S3-2	ZG28T3-2
.060	.089	1.524	2.261	.050	.330	1.270	8.382	.670	17.018	SK28S3-3S	ZG28S3-3	ZG28T3-3
.090	.119	2.286	3.023	.080	.360	2.032	9.144	.700	17.780	SK28S3-4S	ZG28S3-4	ZG28T3-4
.120	.149	3.048	3.785	.110	.390	2.794	9.906	.730	18.542	SK28S3-5S	ZG28S3-5	ZG28T3-5
.150	.179	3.810	4.547	.140	.420	3.556	10.668	.760	19.304	SK28S3-6S	ZG28S3-6	ZG28T3-6
.180	.209	4.572	5.309	.170	.450	4.318	11.430	.790	20.066	SK28S3-7S	ZG28S3-7	ZG28T3-7
.210	.239	5.334	6.071	.200	.480	5.080	12.192	.820	20.828	SK28S3-8S	ZG28S3-8	ZG28T3-8
.240	.269	6.096	6.833	.230	.510	5.842	12.954	.850	21.590	SK28S3-9S	ZG28S3-9	ZG28T3-9
.270	.299	6.858	7.595	.260	.540	6.604	13.716	.880	22.352	SK28S3-10S	ZG28S3-10	ZG28T3-10
.300	.329	7.620	8.357	.290	.570	7.366	14.478	.910	23.114	SK28S3-11S	ZG28S3-11	ZG28T3-11
.330	.359	8.382	9.119	.320	.600	8.128	15.240	.940	23.876	SK28S3-12S	ZG28S3-12	ZG28T3-12
.360	.389	9.144	9.881	.350	.630	8.890	16.002	.970	24.638	SK28S3-13S	ZG28S3-13	ZG28T3-13
.390	.419	9.906	10.643	.380	.660	9.652	16.764	1.000	25.400	SK28S3-14S	ZG28S3-14	ZG28T3-14
.420	.449	10.668	11.405	.410	.690	10.414	17.526	1.030	26.162	SK28S3-15S	ZG28S3-15	ZG28T3-15
.450	.479	11.430	12.167	.440	.720	11.176	18.288	1.060	26.924	SK28S3-16S	ZG28S3-16	ZG28T3-16

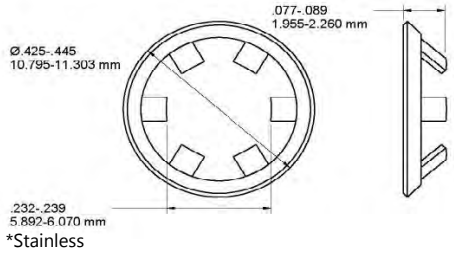
* For SK213-1 Series Receptacles - Add .120 to min thickness (shorter barrel) Note: CLoc®-CamLoc® grip charts are not identical for 2800 Series parts. Physical dimensions are identical. Note (2) ZG28S3 use stainless stud/Skytanium® cup. (3) Skytanium® stud/cup Note: See page 22 for plating options and part# suffix

Skybolt® CLoc® 2000 Series Retainers

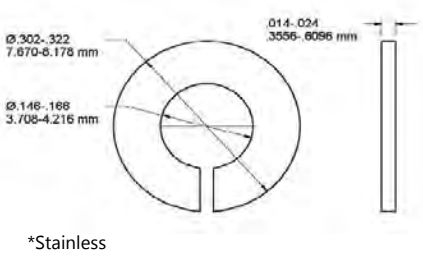
3 - Piece Series (Stud/Retainer - Locking Receptacle)
Most Commonly used NASCAR Fasteners



*Stainless



*Stainless



*Stainless

SK2600-LWS

Solid Retaining Ring
General Purpose

Designed as a general purpose retainer. Will not allow studs to retract when unlocked. Install with SK-T26 Tool.

Replaces 2600-LW or 1127700 (Steel)

Install with SK-T26 Tool (see page 58). Only install after all studs have been fitted. Place retainer flat on the end of the stud cup; use slotted end of tool to push retainer until secure with the panel.

SK2755-1S

Solid Retaining Ring
for Dimpled Panels

Designed for SK2700 or SK2800 Flush Studs installed in a thin dimpled panel. Will not allow studs to retract when unlocked. Install with SK-T26 Tool

Replaces 27S5-1 or 1127301 (Steel)

SK2600-SW

Split Ring Retainer

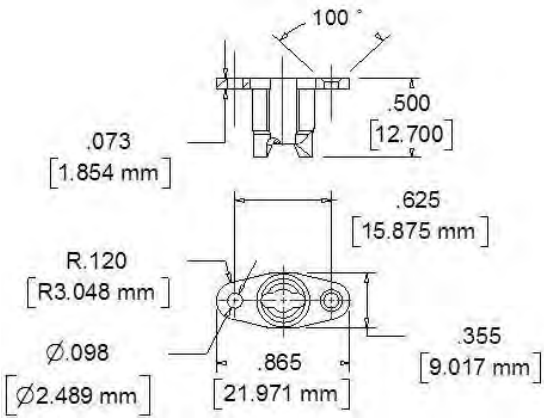
Designed for a curved panel application that require studs to retract when unlocked. They will not function with any 2700 or 2800 Series Studs with oversized drilled holes for the cup dimple. They will only work with .257 holes (after dimpling panel) or a countersunk panel with .257 hole.

Replaces 2600-SW or 1127722 (Steel)

With pliers, bend open at the split; twist washer around stud crosspin; bend to close. See www.skybolt.com for details.

CLoc® 2000 Series Rivet Receptacles

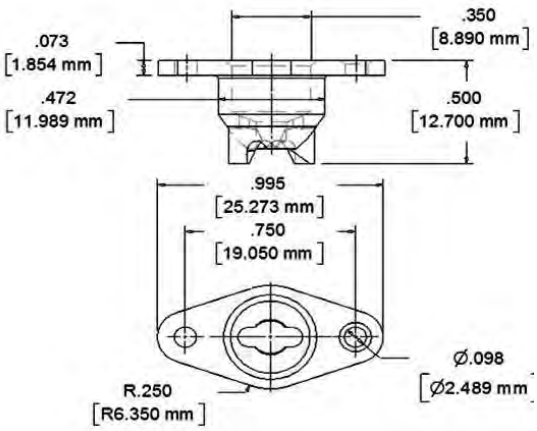
3 - Piece Series (Stud/Retainer - Locking Receptacle)
Most Commonly used NASCAR Fasteners



SK212-10

Part #	Material	Type/Finish	Rivet Size	Weight
SK212-10*	Steel	Machined/Zinc	3/32	.0100/4.5g
SK212-10A*	Alum6061	Machined/None	3/32	.0030/1.4
SK212-10AB	Alum6061	Machined/Anod	3/32	.0030/1.4
SK212-10S	Stain303	Machined/None	3/32	.0100/4.5

*Most common NASCAR receptacles
Require 2500 series studs





SK212-12

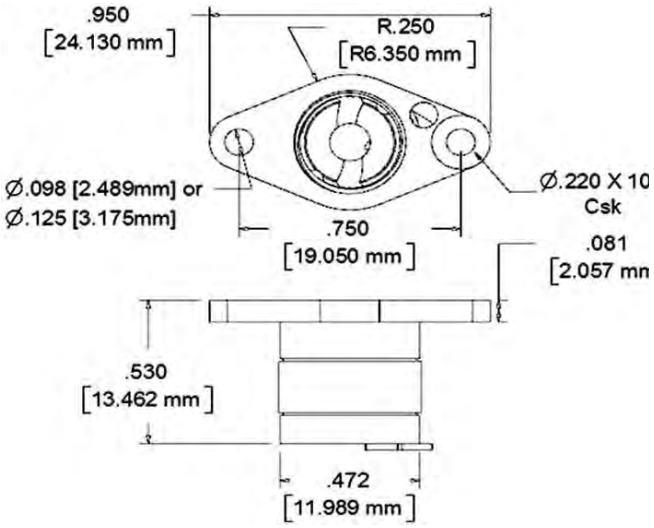
Part #	Material	Type/Finish	Rivet Size	Weight
SK212-12*	Metal	Cast/Chromate	3/32	.010/4.5g
SK212-12D	Metal	Cast/Chromate	3/32	.010/4.5g
SK212-12N	Metal	Cast/Chromate	3/32	.010/4.5g
SK212-12ND	Metal	Cast/Chromate	3/32	.010/4.5g
SK212-12S	Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12SD	Stainless	Machined/Pass	3/32	.0105/4.8
SK212-12ACA	Alum380	Cast/None	3/32	.0040/1.9
SK212-12A8CA	Alum380	Cast/None	1/8	.0040/1.9
SK212-12A*	Alum6061	Machined/None	3/32	.0035/1.7
SK212-12A8*	Alum6061	Machined/None	1/8	.0035/1.7
SK212-12AC*	Alum6061	Anti Chafe	1/8	.0040/1.8
SK212-12AC2	Alum6061	Anti Chafe	1/8	.0040/1.8
SK212-12SENC	Stain303	Encapsulated	3/32	.0105/4.8

*Most common NASCAR receptacles
Call for other styles in stock

CLoc® 2000 Series Rivet Receptacles

3 - Piece Series (Stud/Retainer - Locking Receptacle)
Most Commonly used NASCAR Fasteners

SK213 Adjustable Receptacle







Part #	Material	Type/Finish	Rivet Size	Weight	Length
SK213-1	Skytanium®	Machined/None	3/32	.0070/3.2	.410
SK213-1S	Stain303	Machined/None	3/32	.0155/7.1	.410
SK213-2*	Skytanium®	Machined/None	3/32	.0070/3.2	.530
SK213-2D	Skytanium®	Machined/None	3/32csk	.0070/3.2	.530
SK213-26D	Skytanium®	Machined/None	3/32csk	.0070/3.2	.530
SK213-28*	Skytanium®	Machined/None	1/8	.0070/3.2	.530
SK213-28D	Skytanium®	Machined/None	1/8csk	.0070/3.2	.530

*Most commonly used NASCAR receptacles
Note: SK213-26 has 11/16 Rivet Spacing

ZLoc® Steel and Skytanium® Fasteners

Oval Head Stud Type A



Flush Head Stud Type F



Wing Head Stud Type AW



Steel #5 Buttons NAS1515 Retainer

Flush Head	L	Retainer
SKFO5-50	0.500	N/A
Oval Head	**L**	**Retainer**
SKAO5-50	0.500	N/A

Steel #6 Buttons NAS1515 Retainer

Flush Head	L	Retainer
SKFO65-40	0.400	-6L
SKFO65-50	0.500	-6L
SKFO65-55	0.550	-6L
SKFO65-60	0.600	-6L
SKFO65-65	0.650	-6L
Oval Head	**L**	**Retainer**
SKAO65-40	0.400	-6L
SKAO65-50	0.500	-6L
SKAO65-55	0.550	-6L
SKAO65-60	0.600	-6L
SKAO65-65	0.650	-6L

Steel #6 Winged NAS1515 Retainer

Flush Head	L	Retainer
SKAO65-50W	0.500	-6L

Skytanium® #5 Buttons NAS1515 Retainer

Flush Head	L	Retainer
ZGF5-40	0.400	N/A
ZGF5-50	0.500	N/A
ZGF5-55	0.550	N/A
Oval Head	**L**	**Retainer**
ZGO5-40	0.400	N/A
ZGO5-50	0.500	N/A
ZGO5-55	0.550	N/A

Skytanium® #6 Buttons NAS1515 Retainer

Flush Head	L	Retainer
ZGF65-40	0.400	-6L
ZGF65-50	0.500	-6L
ZGF65-55	0.550	-6L
ZGF65-60	0.600	-6L
ZGF65-65	0.650	-6L
Oval Head	**L**	**Retainer**
ZGO65-40	0.400	-6L
ZGO65-50	0.500	-6L
ZGO65-55	0.550	-6L
ZGO65-60	0.600	-6L
ZGO65-65	0.650	-6L

ZLoc® Ejector Series

Skybolt® SK EHF Ejector Se-

SKEHF	Diameter	L	Thickness
SKEHF5-40	5/8	.40	.075-.125
SKEHF5-50	5/8	.50	.150-.225
SKEHF5-50W	5/8	.50	.150-.225
SKEHF5-55	5/8	.55	.225-.275
SKEHF5-60	5/8	.60	.275-.325
SKEHF5-65	5/8	.65	.325-.425
SKEHF6-40	3/4	.40	.050-.100
SKEHF6-50	3/4	.50	.100-.175
SKEHF6-55	3/4	.55	.200-.250
SKEHF6-60	3/4	.60	.250-.300
SKEHF6-65	3/4	.65	.300-.350

SKEHF5 and SKEHF6

Self Ejecting Fasteners provide ZLoc® 1/4-turn action with studs that eject from the receptacle when opened. Ejected studs won't hang up when sliding or curved panels are removed and give visual sign of unlocked fastener. The Stud assembly is secured to the panel with 1/8" rivets or screws.



Skybolt® SK EJ Ejector Series

SKEJ Series Ejecting Fasteners utilize a threaded backing collar to secure fastener to outer panel. Made from exclusive Skytanium®, the fastener has the same strength rating as the SKEHF5 Series, is 30% lighter, with superior finish. No more ugly rivets!



SKEJ	Diameter	L	Thickness
SKEJ-40A	3/4	.50	.075-.125
SKEJ-50A	3/4	.60	.150-.225
SKEJ-50AW	3/4	.60	.150-.225
SKEJ-55A	3/4	.65	.225-.275
SKEJ-60A	3/4	.70	.275-.325
SKEJ-65A	3/4	.75	325-.425
SK-BN1	Standard Collar .125 Panel		
SK-BN2	Optional Collar .187 Panel		
SK-BN3	Optional Collar .250 Panel		
Use LockTite to retain threaded BN collar			

ZLoc® Series Tabs and Springs

*Tabs are welded to frame to serve as a spring mount
*Use SSP43 1/8 Steel Pop Rivets

SK944

Button: All #4 Studs
Spring: SK4-225
Rivet Space: .750
Thickness: .100
Weight: .0115 lbs.



SK945EHF

Button: All #5 & EHF/EJ Studs
Spring: SK5-325
Rivet Space: 1.000
Thickness: .100
Weight: .0220 lbs



SK946

Button: All #5 or #6 & EHF Studs
Spring: SK6-375
Rivet Space: 1.375
Thickness: .100
Weight: .0260 lbs.



SK945CL

CLoc® SK214-16A, 244-16, SK245
Rivet Space: 1.000
Thickness: .100
Weight: .0165 lbs.



ZLoc® SPRINGS (Most Common)

SK4-225 #4 Spring	3/4" Rivet Spacing
SK5-325 #5 Spring	1" Rivet Spacing
SK6-325 #6 Spring	1-3/8 Rivet Spacing
SK6-375 #6 Spring	1-3/8" Rivet Spacing



SK-DP1 PANEL REINFORCEMENT PLATE

This aluminum Doubler Plate is used with all #6 SKFO65 and ZGF65 Flush Head ZLoc® Studs to add panel strength.



ZLoc®ker™ Series



New to the ZLoc® family, the ZLockerPro™ and ZLockerTF™. Skybolt® 's new button design features a rubber ball insert that maintains constant pressure on the spring, which means the stud will no longer unlock due to heavy vibration. The ZLocker™ stud also features a collared slot that prevents screwdriver slippage, as well as a new and improved ramp profile for maximum service life.

ZLockerPro™ – Preset Locker

Oval Head



Steel	Skytanium®	L	NAS Retainer
SKO65-40PRO	ZGO65-40PRO	.400	-6L
SKO65-50PRO	ZGO65-50PRO	.500	-6L
SKO65-55PRO	ZGO65-55PRO	.550	-6L
SKO65-60PRO	ZGO65-60PRO	.600	-6L
SKO65-65PRO	ZGO65-60PRO	.650	-6L

Flush Head



Steel	Skytanium®	L	NAS Retainer
SKF65-40PRO	ZGO65-40PRO	.400	-6L
SKF65-50PRO	ZGO65-50PRO	.500	-6L
SKF65-55PRO	ZGO65-55PRO	.550	-6L
SKF65-60PRO	ZGO65-60PRO	.600	-6L
SKF65-65PRO	ZGO65-60PRO	.650	-6L

ZLockerTF™ – Adjustable Set Screw Locker

Oval Head



Steel	Skytanium®	L	NAS Retainer
SKO65-40TF	ZGO65-40TF	.400	-6L
SKO65-50TF	ZGO65-50TF	.500	-6L
SKO65-55TF	ZGO65-55TF	.550	-6L
SKO65-60TF	ZGO65-60TF	.600	-6L
SKO65-65TF	ZGO65-60TF	.650	-6L

Flush Head



Steel	Skytanium®	L	NAS Retainer
SKF65-40TF	ZGO65-40TF	.400	-6L
SKF65-50TF	ZGO65-50TF	.500	-6L
SKF65-55TF	ZGO65-55TF	.550	-6L
SKF65-60TF	ZGO65-60TF	.600	-6L
SKF65-65TF	ZGO65-60TF	.650	-6L

SK2003 Cowling

SK203-TEM1

Skybolt® developed the template alignment system to accurately determine the proper location of the mount to the corresponding cowling fastener. Simply locate all holes prior to removing the cowling by tracing the three holes onto the airframe. With the cowling removed the desired center can be determined for all locations.



SK-AW4 Cam Washers



Cam Washers allow simple location adjustment of the Platemount location so that it is aligned with the corresponding cowling fastener. Simply modify any Skybolt® SK2003A Series Mount for the Cam Washers, install, and "dial" the location of the Platemount as determined by the template. No complex drilling of any aircraft components is required to perfectly align any Cessna cowling. The patented design allows full movement in both axis plus a center neutral location. Shown is the SK2003-51ADJ with baseplate holes drilled with a Unibit-1 drill to 7/16-inch.

SK2003-AW4S includes 2 ea Cam Washers. Use with any Non-Adjusting Platemount



Cam Washers dialed full left of center



Center default location



Cam Washers dialed full right of center

SK2003 Series Engine Cowling Mounts



The Skybolt® SK2003 Series cowling mounts replace the OEM Cessna®/Lord® J7444 Series mounts with full FAA-PMA and FAA TSO-C148 approvals. The SK2003 mount is now the preferred mount for the world's largest flight school and is featured on all Yingling zero-time Ascend 172 airplanes. Our generation IV mounts have evolved as the flight school proven best ever mount on the market for strength and lasting durability. Skybolt®'s exclusive 100% stress test inspection insures that each and every mount will go the distance without transferring unwanted stress to the airframe components or firewall.

US Patents 7,997,843 and 8,282,329 *FAA Form 8130-3 included with mounts by request*

SK2003-14A
Replaces J7444-14
Southco® 82 Fastener
67-On C150, 67-86 C172,
C172XP, 68-78 C177 .0230lb



SK2003-24A
Replaces J7444-24
CLoc® 27S3 Fastener
73-86 C182 .0230 lb



SK2003-42A
Replaces J7444-36/42
CLoc® 40S5S Fastener
C172 R/S, Skybolt® SK203
STCd Conversions .0230 lb



SK2003-51ADJ
Adjustable Depth
#82 Southco® and all CLoc® Series
Use SK2602 2.0 x 50mm to adjust



SKYBOLT
AEROSPACE FASTENERS

Skybolt® Stainless Cowling Fastener Replacement Kits (TSO-C148)

Stainless Cowling Kits replace the old, worn and rusted parts originally installed on your cowlings and access panels with exclusive Skybolt® CLoc®, ZLoc®, or ALoc® style stainless fasteners. Many kits depicted may only replace certain portions of the engine cowling. Optional kits to complete all panels are available.
The unique *Skybolt® Cowling Fastener Replacement Kits* were developed over a span of 5 to 6 years utilizing Parts Manuals (IPC), field research, and customer feedback. We soon discovered that the Parts Manuals were very inaccurate and relied more on field experience. Despite exhaustive data, we also discovered that no two aircraft were ever the same. The Skybolt® Cowling Fastener Kits will usually contain more of a selection than the aircraft may actually require so that a replacement project can efficiently move from start to finish. Like the Trim and Fuel Tank Kit development, many companies began to copy the Skybolt® Cowling Kit product line only to discover just how difficult it is to understand each and every production aircraft produced from the 1940s to date. Without the supporting data to back up the fasteners required on most aircraft, the copy kits can supply about 70% of the required hardware. Skybolt®'s goal is 100% in all of our kits. Cowlings are our business. As many of these kits can cost hundreds of dollars, you deserve the best product on the market and a company that can stand by your investment for as long as you own the aircraft.

Skybolt® Stainless Cessna Cowling Conversion Kits (STC'd)

Skybolt® 2800 Series Kits convert early Screw Cowlings to the Skybolt® developed CLoc® SK25S4S Fastener. Skybolt® 203 Series Kits convert all Platemount Cowlings to the CLoc® SK40S5 Fastener. Skybolt® 4th Generation Conversion Kits (Southco® to CLoc®) utilize the new 2013 SK2003-42A Platemount (patent 7,997,843 and 8,282,329) with SK245-4 Series Adjustable Receptacles. With 30 years experience maintaining these cowlings, our developments address the "flex" feature unique to the J7444-42 Lord® mounts; our template based alignment process, and our (patented) SK2003-AW4 Cam Washers easily position mounts for alignment in even extreme applications.

Skybolt® Stainless Beech Bonanza Cowling Replacement and Conversion Kits (STC'd)

Skybolt® Stainless Bonanza Kits offer direct component replacement for Dzus® Fasteners in the Upper Cowl and/or the AirLoc® Fasteners in the Lower Cheek Cowling. Bonanza Conversion Kits replace old school Dzus® and AirLoc® Fasteners with CLoc® Fasteners for much improved performance and appearance. STCd for TC A777 & 3A15.

Skybolt® Stainless Trim Kits

Trim Kits were created in the early 1980s as a convenient and cost effective hardware selection for non-structural exterior access panels and fairings. Note: Some aircraft depict structural panels (Some Mooney and KingAir wing panels). Skybolt® supplies structural steel (AN509 Series) screws for these panels as AN509 stainless screws are not a structural equivalent to the steel AN509 screws.

Skybolt® Stainless Fuel Tank Kits

Fuel Tank Kits offer the structural (and non-structural) screws common to fuel tanks in most production aircraft. Kits are sold Per Tank (1 Tank per Kit)








Cessna Conversion Kits

Screw Kits - SK25S4S Series SK203 Kits - Gen IV Platemounts - Diamondhead® Studs

STCd FAA-PMA Approved

CESSNA MODEL	YEAR	SERIAL#	CONVERSION KIT	KIT DESCRIPTION
C150	59-66	17001-64532	**C150C2800P**	Screw Cowling - to SK25S4S Phillips
C150G-M **A150K-M**	67-On 70-77	64533-79405 A150001-A150685	**SK203C150P4**	SK40S5S Phillips - Complete Kit
			SK203C150P4D*	SK40S5S Phillips - Complete Kit w/ Doublers
			SK203C150P-FW4	SK40S5S Phillips - Firewall Kit
			SK203C150P-SD2	SK28S3 Phillips - Side Kit
			SK203C150P-RET	SK40S5S Phillips - Retro Kit
C172	56-66	28000-54892	**C172C2800P**	Screw Cowling - to SK25S4S Phillips
C172H-P	67-81	54893-75034	**SK203C172P4**	SK40S5S Phillips - Complete Kit
			SK203C172P-FW4	SK40S5S Phillips - Firewall Kit
			SK203C172P-SD4	SK40S5S Phillips - Side Kit
			SK203C172P-RET	SK40S5S Phillips - Retro Kit
C172P **C172Q** **C172P-Q**	80-83 83 84-85	75035-76079 75869-76079 76080-76516	**SK203C172PQ4**	SK40S5S Phillips - Complete Kit
			SK203C172P-FW4	SK40S5S Phillips - Firewall Kit
			SK203C172PQSD4	SK40S5S Phillips - Side Kit
			SK203C172P-RET	SK40S5S Phillips - Retro Kit
			Year 83 Southco® FW, CamLoc® 40S5 across nose Years 84-85 CamLoc® 27S3 FW, 40S5 across nose	
C172XP-XPII	77-81	R1722000-3454 FR17200226-00675*	**SK203C172P-XP4**	SK40S5S Phillips - Complete Kit
			SK203C172P-FR4	SK40S5S Firewall - SK27S3S Side/Nose/Ctr
			SK203C172PXPFW4	SK40S5S Phillips - Firewall Kit
			SK203C172PXPSD4	SK40S5S Phillips - Side Kit
			SK203C172PXP-RET	SK40S5S Phillips - Retro Kit
			Southco® - Firewall, CamLoc® 40S5 - Sides, Nose, and Center Split. Will not fit T41	

*Doublers Part #: SK-C150DL - Left Side | SK-C150DR - Right Side

CESSNA MODEL	YEAR	SERIAL#	CONVERSION KIT	KIT DESCRIPTION
C172R & S	97-On	80001-On 8001-On	**SK203C172P-RS4**	SK40S5S Phillips - Complete Kit
			Note: Kit replaces J7444 mounts, all CLoc® studs/grommets on firewall, sides, nose, service door, filter	
			SK203C172P-RS4FW	SK40S5S Phillips - Firewall Kit
			CamLoc® 4002 - firewall/sides	
C175	58-62	55001-57119	**C175C2800P**	Screw Cowling - to SK25S4S Phillips
C177A-B **C177RG**	68-78 71-78	00001-02752 00001-1366	**SK203C177P4**	SK40S5S Phillips - Complete Kit
			SK203C177P-FW4	SK40S5S Phillips - Firewall Kit
			SK203C177P-SD4	SK40S5S Phillips - Side Kit
			SK203C177P-RET	SK40S5S Phillips - Retro Kit
C180	53-60	30000-50911	**C180C2800P**	Screw Cowling - to SK25S4S Phillips
C182	56-60	33000-53007	**C182C2800P**	Screw Cowling - to SK25S4S Phillips
C182P-RB	73-86	61426-68542	**SK203C182P2**	SK28S3/40S5S Phillips - Complete Kit
			SK203C182P4	SK40S5S Phillips - Complete Kit
			SK203C182P-FW4	SK40S5S Phillips - Firewall Kit
			SK203C182P-RET	SK40S5S Phillips - Retro Kit

Note: RET Kits are for customers who have previously installed SK245 Kits and want to convert back to the SK2003 rubber mounts. RET Kits include new SK2003 Mounts, SK2001AW Alignment Washers and all Hardware (No Studs or Grommets)
Cessna Firewall Bracket Part#: Upper: 0453003-3 | Lower: 0453003-2





Beechcraft Conversion Kits

BEECH MODEL	YEAR	SERIAL#	CONVERSION KIT	KIT DESCRIPTION
Debonair 33,A **Bonanza 35-N35**	60-61 47-61	CD1-CD350 D1-D6567	**B35UC40S**	SK4002S Upper Conversion Kit
			B35UC40P	SK40S5S Upper Conversion Kit
			B35LC27S	SK2700S Lower Gill Conversion Kit
			B35LC28P	SK28S3S Lower Gill Conversion Kit
			(Models M-N Change from #2 AirLoc® to #5 AirLoc® on or about SN6567...	
Debonair 33 A-C **Debonair C33A, E33A** **Bonanza N-V35A**	61-67 66-69 61-69	CD351-CD1234 CE1-CE289 D6568-D9068	**B35UC40S**	SK4002S Upper Conversion Kit
			B35UC40P	SK40S5S Upper Conversion Kit
			B35LC40S	SK4002S Lower Gill Conversion Kit
			B35LC40P	SK40S5S Lower Gill Conversion Kit
			Designated Bonanza 68 E33, SN CD1119 68 E33A, SN CE180	
Bonanza F33,G33	70-73	CD1235-CD1304	No Kit for Upper	
Bonanza F33A,F33C	70-Mid 73	CE290-CE436 (No 418), CJ26-39	**B35LC40S**	SK4002S Lower Gill Conversion Kit
Bonanza F33A,F33C	Mid 73-94	CE418, CE436-On, CJ40-On	**B35LC40S**	SK4002S Lower Gill Conversion Kit
Bonanza 36, A36	68-73	E1-E424	**B35LC40P**	SK40S5S Lower Gill Conversion Kit

BEECH MODEL	YEAR	SERIAL#	CONVERSION KIT	KIT DESCRIPTION
Bonanza V35B	70-82	D9069-10403	No Kit for Upper	
Bonanza A36	73-87	E425 On	**B35LC40S**	SK4002S Lower Gill Conversion Kit
			B35LC40P	SK40S5S Lower Gill Conversion Kit
A36TC,B36TC	79-87	EA1-On	No Kit for Upper	
			B35LC40S	SK4002S Lower Gill Conversion Kit
			B35LC40P	SK40S5S Lower Gill Conversion Kit

Beech Bonanza Cowling Fastener Configuration

Type Certificate A-777			Upper	Lower
Model	Years	SN	Cowl	Cowl
35	47-48	D1-D1210	Dzus®	#2-90
A35	49	D1501-D2200	Dzus®	#2-90
B35	50	D2201-D2680	Dzus®	#2-90
C35	51-52	D2681-D3400	Dzus®	#2-90
D35	53	D3401-D3698	Dzus®	#2-90
E35	54	D3699-D3998	Dzus®	#2-90
F35	55	D3999-D4391	Dzus®	#2-90
G35	56	D4392-D4865	Dzus®	#2-90
35R	All	All	Dzus®	#2-90

Type Certificate 3A15			Upper	Lower
Model	Years	SN	Cowl	Cowl
H35	57	D4866-D5330	Dzus®	#2-90
J35	58	D5331-D5725	Dzus®	#2-90
K35	59	D5726-D6161	Dzus®	#2-90
M35	60	D6162-D6567	Dzus®	#2-90
N35	61	D6568-D6841	Dzus®	#5-80
P35	62	D6842-D7066	Dzus®	#5-80
S35	63-65	D7067-D7976	Dzus®	#5-80
V35	66-67	D7977-D8598	Dzus®	#5-80
V35A	68-69	D8599-D9068	Dzus®	#5-80
V35B	70-82	D9069-On	Latch	#5-100
35-33	60	CD2-250	Dzus®	#2-90
35-A33	61	CD251-350	Dzus®	#2-90
35-A33	61	CD351-CD387	Dzus®	#5-80
35-B33	62-64	CD388-CD813	Dzus®	#5-80
35-C33	65-67	CD814-CD1118	Dzus®	#5-80
35-C33A	66-67	CE1-CECE179	Dzus®	#5-80
E33	68-69	CD1119-CD1234	Dzus®	#5-80
E33A	68-69	CE180-CE289	Dzus®	#5-80
E33C	68-69	CJ1-CJ25	Latch	#5-80
F33	70	CD1235-CD1254	Latch	#5-80
F33A	70-Mid 73	CE290-CE435	Latch	#5-80
F33A	Mid 73-94	CE418,436-On	Latch	#5-100
F33C	70	CJ26-CJ39	Latch	#5-80
F33C	70 On	CJ40-On	Latch	#5-100
G33	72	CD1255-CD1304	Latch	#5-80
36	68-69	E1-E184	Latch	#5-80
A36	70-73	E185-E424	Latch	#5-80
A36	73-On	E425-On	Latch	#5-100
A36TC	79-81	EA1-EA272	Latch	#5-100
B36TC	82-On	EA273-On	Latch	#5-100
G36	All	All	Latch	#5-100

SKYBOLT
AEROSPACE FASTENERS

Cowling Fastener Replacement Kits

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C150G-M	67-77	64533-79406	**C150-C1**	Slotted Southco®
A150 K-M Aerobat (and Commuter)	70-77		**C150-C1P**	Phillips Southco®
A152 Early	Early 78	0735-0779	**C152-C1**	Collared Slotted
C152 Early	Early 78	79406-81195 F152-01429-01528	**C152-C1P**	Phillips
A152 Late 78-86	Late 78-86	0780-1049	**C152-C2**	Collared Slotted
C152 Late	Late 78-85	81196-86035 F152-01529 On	**C152-C2P**	Phillips
C172H-P	67-81	54893-75034	**C172-C1**	Slotted Southco®
			C172-C1P	Phillips Southco®
			C100-EAD3	**Option:** Eng Access Door (Original)
			C100-EAD4	**Option:** Eng Access Door (CLoc® Conv)
C172P,Q	84-86	76080-76516	**C172-C3**	Slotted 2700/4002
			C172-C3P	Phillips 27S3/40S5
C172P	86-On	76517 On	**C172-C4**	Collared Slotted
			C172-C4P	Phillips
HawkXP,XPII	77-81	R172-2000-3454	**C172-C5**	Collared Slotted
			C172-C5P	Phillips
Cutlass RG	80-85	All	**C172-C6**	Collared Slotted
			C172-C6P	Phillips
C172R	1996-On	80001 On	**C172-C8P**	Phillips
C172S		8001 On		
C177, A, B & RG	71-81	All	**C177-C1**	Collared Slotted
			C177-C1P	Phillips

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C180	61-72	50912-52284	**C180-C1**	Collared Slotted
C185	61-72	0001-02090	**C180-C1P**	Phillips
C180	73-81	52285-53203	**C180-C2**	Collared Slotted
C185	73-85	02091-On	**C180-C2P**	Phillips
C180 **C185**	61-81 61-85	50912-53203 0001-On	**C100-EAD5**	**Option:** Eng Access Door (Original)
			C100-EAD4	**Option:** Eng Access Door (CLoc® Conv) No STC
			C100-AF1	**Option:** Air Filter Fastener Kit
			C100-EPD1S	**Option:** External Pwr Door (Slotted)
			C100-EPD1P	**Option:** External Pwr Door (Phillips)
C182D	61	53008-53598	**C182-C1**	**Collared Slotted**
			C182-C1P	**Phillips**
			C100-AF1	**Air Filter Fastener Kit**
			C100-EPD1S	**External Pwr Door - Slotted**
			C100-EPD1P	**External Pwr Door - Phillips**
C182E-M	62-69	53599-60055	**C182-C2**	Collared Slotted
			C182-C2P	Phillips
			C100-EPD1S	**Option:** External Pwr Door - Slotted
			C100-EPD1P	**Option:** External Pwr Door - Phillips
C182N-P	70-72	60056-61425	**C182-C3**	Collared Slotted
			C182-C3P	Phillips
			C100-EPD1S	**Option:** External Pwr Door - Slotted
			C100-EPD1P	**Option:** External Pwr Door - Phillips
C182P-R	73-86	60056-66590	**C182-C4**	Collared Slotted
			C182-C4P	Phillips
			C100-EPD1S	**Option:** External Pwr Door - Slotted
			C100-EPD1P	**Option:** External Pwr Door - Phillips
T182,R,TR,RG	78-86	All	**C182-C5**	Collared Slotted
			C182-C5P	Phillips
			C100-EPD1S	**Option:** External Pwr Door - Slotted
			C100-EPD1P	**Option:** External Pwr Door - Phillips
C182S	97-00	80004-80944 Non-Turbo	**C182-C6**	Collared Slotted
C182T	01-On	8001-On Non-Turbo	**C182-C6P**	Phillips
182T	01-On	80945-On Turbo	**C182-C7**	Collared Slotted
T182T	01-On	8001-On Turbo	**C182-C7P**	Phillips

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C188 Agwagon	66-83	All	**C188-C1**	Collared Slotted
			C188-C1P	Phillips
			C100-EPD1S	**Option:** External Pwr Door - Slotted
			C100-EPD1P	**Option:** External Pwr Door - Phillips
			C188-RSP1	**Option:** Fuselage ZLoc®
C205	63-64	0001-0577	**C205-C1**	Collared Slotted
C206	64	0001-0275	**C205-C1P**	Phillips
U,TU206	65-84	0276-06846	**C200-2800**	**Option:** Belly Panel (CLoc® converted-Slot-
P,TP206	65-70	091-0647	**C200-28S3**	**Option:** Belly Panel (CLoc® converted-Phil-
U206,TU	85-86	06847 On	**C206-C1**	Collared Slotted
			C206-C1P	Phillips
			C200-2800	**Option:** Belly Panel (CLoc® converted-Slot-
			C200-28S3	**Option:** Belly Panel (CLoc® converted-Phil-
C206, T206	97-On		**C206-C2P**	Collared Slotted
C207,T207	69-84	All	**C207-C1**	Collared Slotted
			C207-C1P	Phillips
			C200-2800	**Option:** Belly Panel (CLoc® converted-Slot-
			C200-28S3	**Option:** Belly Panel (CLoc® converted-Phil-
C208	85-On	All	**C208C1P**	Phillips
C210, A	60-61	57001-57840	**C210-C1**	Collared Slotted
C210 B-F	62-66	57841-58818		
C210 G-J	67-69	58819-59199		
C210 K-N	70-81	59200-64535 No Air Cond		
T210 F	66	0001-0197	**C210-C1P**	Phillips
T210 G-J	67-69	0198-0454		
T210 K-L	70-73	59200-60089 No Air Cond		
C210 L-N	74-84	60090-64897 With Air Cond	**C210-C2**	Collared Slotted
C210,T210 N	74-84	60090-64897	**C210-C2P**	Phillips
P210 N	78-83	0001-00834		
T210R(Turbo)	85-86	64898-65009	**C210-C3**	Collared Slotted
P210R	85-86	0835-0874	**C210-C3P**	Phillips
C210R 85-86 (Non Turbo)	85-86	64898-65009 No Turbo	**C210-C4**	Collared Slotted
			C210-C4P	Phillips

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C303 T303 Crusader	82-84	00001-00315	**C303-C1**	Collared Slotted
			C303-C1P	Phillips
C310	54-57	35000-35546	**C310-C1**	Collared Slotted
			C310-C1P	Phillips
			C300-BA1	**Option:** Battery Access Panel
			C300-OAD1S	**Option:** Oil Access Door - Slotted
			C300-OAD1P	**Option:** Oil Access Door - Phillips
C310 B,C,D	58-60	35655-39299	**C310-C2**	Collared Slotted
			C310-C2P	Phillips
			C300-BA1	**Option:** Battery Access Panel
			C300-OAD1S	**Option:** Oil Access Door - Slotted
			C300-OAD1P	**Option:** Oil Access Door - Phillips
C310 E, F thru K	61-66	F0001-K0245 Non Turbo	**C310-C3**	Collared Slotted
			C310-C3P	Phillips
C310 L thru N	67-68	N0001-N0198 Non Turbo	**C300-BA3**	**Option:** Battery Acces Panel
			C300-NA1S	**Option:** Nose Access - Slotted K-Q Only
C310 P thru Q	69-74	P0001-Q1160 Non Turbo	**C300-NA1P**	**Option:** Nose Access - Phillips K-Q Only
			C300-OAD1S	**Option:** Oil Access Door - Slotted
C320A-E SkyKnight	62-68	All	**C300-OAD1P**	**Option:** Oil Access Door - Phillips
C310P,Q,R	69-81	P0001-R2140 All Turbo	**C310-C5**	Collared Slotted
			C310-C5P	Phillips
			C300-BA3	**Option:** Battery Acces Panel
			C300-NA1S	**Option:** Nose Access - Slotted No C310R
			C300-NA1P	**Option:** Nose Access - Phillips No C310R
C336 Skymaster	63-64	0001-0195 Fixed Gear	**C336-C1**	Collared Slotted
			C336-C1P	Phillips
C337 Skymaster	65-80	0002-01951	**C337-C1**	Collared Slotted
			C337-C1P	Phillips
			C300-NA2	**Option:** Avionics Panel
C337P		0001-0356	**C300-NA3S**	**Option:** Avionics Panel - Slotted
			C300-NA3P	**Option:** Avionics Panel - Phillips
C340,A	All		**C340-C1**	Collared Slotted
			C340-C1P	Phillips
			C300-NA4S	**Option:** Nose Access Panel - Slotted
			C300-NA4P	**Option:** Nose Access Panel - Phillips

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C401,402,A,B	All		**C400-C1**	Collared Slotted
			C400-C1P	Phillips
			C400-NF1	**Option:** Nacelle Panels and Fairing
			C400-BA1S	**Option:** Battery Acces Panel - Slotted
			C400-BA1P	**Option:** Battery Acces Panel - Phillips
			C400-NP1S	**Option:** Nose Panel - Slotted 402A0001-0046
			C400-NP1P	**Option:** Nose Panel - Phillips 402A0001-0046
			C400-NP2S	**Option:** Nose Panel - Slotted 402A0047-On
			C400-NP2P	**Option:** Nose Panel - Phillips 402A0047-On
			C400-NP3S	**Option:** Nose Panel - Slotted 402B
			C400-NP3P	**Option:** Nose Panel - Phillips 402B
C402C	79-85	402C0001-0808	**C400-C2**	Collared Slotted
			C400-C2P	Phillips
			C400-NF1	**Option:** Nacelle Panels and Fairing
			C400-BA1S	**Option:** Battery Acces Panel - Slotted
			C400-BA1P	**Option:** Battery Acces Panel - Phillips
			C400-NP4S	**Option:** Nose Panel w Avionics Door - Slotted
			C400-NP4P	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP5S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP5P	**Option:** Nose Panel No Avionics Door - Phillips
C404 Titan	77-81	0001-0859	**C404-C1**	Collared Slotted
			C404-C1P	Phillips
			C400-BA2S	**Option:** Inverter/Battery Panel - Slotted
			C400-BA2P	**Option:** Inverter/Battery Panel - Phillips
			C400-CP1S	**Option:** Bottom Cowling Panels - Slotted
			C400-CP1P	**Option:** Bottom Cowling Panels - Phillips
			C400-NP4S	**Option:** Nose Panel w Avionics Door - Slotted
			C400-NP4P	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP5S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP5P	**Option:** Nose Panel No Avionics Door - Phillips
For C411 - See Next Page				
C414, C414 II	70-77	0001-0965	**C414-C1**	Collared Slotted
			C414-C1P	Phillips
C414A Chancellor **C414A III**	87-85	0001-1212	**C414-C2**	Collared Slotted
			C414-C2P	Phillips

C414 Continued →

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
			C400-NF1	**Option:** Nacelle Panels and Fairing
			C400-BA1S	**Option:** Battery Acces Panel - Slotted
			C400-BA1P	**Option:** Battery Acces Panel - Phillips
C414, C414 II	70-77	0001-0965	**C400-CP2S**	**Option:** Bottom Cowling Panels - Slotted
C414A Chancellor		0001-1212	**C400-CP2P**	**Option:** Bottom Cowling Panels - Phillips
C414A III	87-85		**C400-NP6S**	**Option:** Nose Panel w Avionics Door - Slotted
			C400-NP6P	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP7S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP7P	**Option:** Nose Panel No Avionics Door - Phillips
			C421-C1	Collared Slotted
			C421-C1P	Phillips
			C400-RAD1S	**Option:** Radome - Slotted
C411	65-68	0002-0300	**C400-RAD1P**	**Option:** Radome - Phillips
C421,A,B	68-75	0001-0970	**C400-BA2S**	**Option:** Battery Acces Panel - Slotted
			C400-BA2P	**Option:** Battery Acces Panel - Phillips
			C400-NP8S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP8P	**Option:** Nose Panel No Avionics Door - Phillips
			C421-C2	Collared Slotted
			C421-C2P	Phillips
			C400-OD1S	**Option:** Oil Drain Door - Slotted
			C400-OD1P	**Option:** Oil Drain Door - Phillips
			C400-BA2S	**Option:** Inverter/Battery Panel - Slotted
C421 C Golden Eagle	76-85	0001-1807	**C400-BA2P**	**Option:** Inverter/Battery Panel - Phillips
			C400-NP6S	**Option:** Nose Panel w Avionics Door - Slotted
			C400-NP6P	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP7S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP7P	**Option:** Nose Panel No Avionics Door - Phillips
			C425-C1	Collared Slotted
			C425C1P	Phillips
C425 Corsair/Conquest I		425-0001-0236	**C400-NP6S**	**Option:** Nose Panel w Avionics Door - Slotted
PT6 81-86	81-86		**C400-NP6P**	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP7S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP7P	**Option:** Nose Panel No Avionics Door - Phillips
C441 Conquest/II Garrett	78-86	441-0001-0362	**C441-C1**	Collared Slotted
			C441-C1P	Phillips

C441 Options Continued →

CESSNA MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
C441 Conquest/II Garrett	78-86	441-0001-0362	**C400-NP6S**	**Option:** Nose Panel w Avionics Door - Slotted
			C400-NP6P	**Option:** Nose Panel w Avionics Door - Phillips
			C400-NP7S	**Option:** Nose Panel No Avionics Door - Slotted
			C400-NP7P	**Option:** Nose Panel No Avionics Door - Phillips
CIT I,II Citation	72-94	All	**C500-C1**	Collared Slotted
			C500-C1P	Phillips
CIT III Citation	83-91	0002-0206	**C500-C2**	Collared Slotted
			C500-C2P	Phillips

BEECHCRAFT MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
Musketeer23	63-66	M1-900	**BM-C1S**	MS27039C
Musketeer23A,B	66-69	M901-1284	**BM-C1**	Collared Slotted
Musketeer24	66-69	MA1-363		
Sport150	66-69	MB1-480	**BM-C1P**	Phillips
Musketeer23C	70-On	M1285-1361		
Musketeer24	70	MA364-On	**BM-C2**	Collared Slotted
Sport150	70-78	MB481-905		
Sundowner 180	72-83	M1362-2392	**BM-C2P**	Phillips
Sierra 200	70-83	MC2-795		
Debonair 33,A	60-61	CD1-CD350	**B35UC530**	AJ5 Dzus®-Upper
			B35LC2090	#2 AirLoc® - Gills - Includes Grommets
Bonanza 35-N35	47-61	D1-D6567	**(Models M-N Change from #2 AirLoc® to #5 AirLoc® on or about SN6567…..**	
Debonair 33 A-C	61-67	CD351-CD1234	**B35UC530**	AJ5 Dzus®-Upper
Debonair C33A,E33A	66-69	CE1-CE289	**B35LC5080**	#5 AirLoc® - Gills - Includes Grommets
Bonanza N-V35A	61-69	D6568-D9068	**Designated Bonanza 68 E33, SN CD1119 68 E33A, SN CE180**	
Bonanza F33,G33	70-73	CD1235-CD1304		
Bonanza F33A,F33C	70-Mid 73	CE290-CE436 (No 418), CJ26-39	**Latch Upper**	No Kit for Upper
			B35LC5080	#5 AirLoc® - Gills Only - Includes Grommets
Bonanza F33A,F33C	Mid 73-94	CE418, CE436-On, CJ40-On	**B35LC5100**	#5 AirLoc® - Gills Only - Includes Grommets
Bonanza 36, A36	68-73	E1-E424		
Bonanza V35B	70-82	D9069-10403	**Latch Upper**	No Kit for Upper
Bonanza A36	73-87	E425 On	**B35LC5100**	#5 AirLoc® - Gills Only - Includes Grommets
A36TC,B36TC	79-87	EA1-On	**Latch Upper**	No Kit for Upper
			B35LC5100	#5 AirLoc® - Gills Only - Includes Grommets

BEECHCRAFT MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
Twin Bonanza B50	52-62	H1-DH347	**B50-C1**	AirLoc®
Baron 55,A55,B55,B55A **Baron C55, D55, E55** **Baron 58**	61-82	TC1 On TE1 On TH1 On	**B55-C1**	Collared Slotted
			B55-C1P	Phillips
			B55-NC	**Option:** Lower Nose Cowling #5 ZLoc® (No later
			B55-EP	**Option:** Filter Access Panels #4 ZLoc® (B55
			B55-NP1	**Option:** Nacelle Panels #4 ZLoc®
			B55-EPD	**Option:** External Pwr Door #4 ZLoc®
			B55-RAD	**Option:** Radome #5 ALoc®
			B55-BD	**Option:** Bag Door #5 ALoc® Wing (TE-1 -
			B55-FG	**Option:** Fuel Gage Panels #5 ALoc® (Not all
			B55-AFP	**Option:** Aft Fuselage Panel #5 ALoc® (Not all
			B55-AS1	**Option:** Air Scoop (TE1 - TE1078, TH1 - TH740, No B55)
			B55-AS2	**Option:** Air Scoop (TE1079 Up, TH741 Up, No B55)
Baron 58P **Baron 58TC**	76-86	TJ3 On TK1 On	**B55-C2**	Collared Slotted
			B55-C2P	Phillips
			B55-NP1	**Option:** Nacelle Panels #4 ZLoc®
			B55-EPD	**Option:** External Pwr Door #4 ZLoc®
			B55-RAD	**Option:** Radome #5 ALoc®
			B58P-AS1	**Option:** Air Scoops #4 ZLoc®
Baron 56	67-71	TG1-TG94	**B56-C1**	Collared Slotted
			B56-C1P	Phillips
			B55-NC	**Option:** Lower Nose Cowling #5 ZLoc®
			B55-NP2	**Option:** Nacelle Panels #2 ALoc®
			B55-EPD	**Option:** External Pwr Door #4 ZLoc®
			B55-RAD	**Option:** Radome #5 ALoc®
			B55-AS3	**Option:** Air Scoops #2 and #5 ALoc®
Duke 60,A60 **Duke B60**	68-73 74-82	P4-P246 P247-597	**B60-C1**	Collared Slotted
			B60-C1P	Phillips
			B60-LP1S	**Option:** Lower Panels - Slotted P4-P144
			B60-LP1P	**Option:** Lower Panels - Phillips P4-P144
			B60-LP2S	**Option:** Lower Panels - Slotted P145-P247
			B60-LP2P	**Option:** Lower Panel - Phillips P145-P247
Dutchess B76	78-82	ME1-ME437	**B76-C1**	Collared Slotted
			B76-C1P	Phillips
Travelair 95	58-68	TD2-TD722	**B95-C1**	AirLoc®

PIPER MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
PA-18 Super Cub	50-83	105HP	**PA18-C1**	Eng Side Panels Slotted
		125HP	**PA18-C2**	Eng Side Panels Slotted
		Continental	**PA18-C3**	Eng Side Panels Slotted
PA23-150 Apache	54-57	23-5 - 1163	**PA23-C1**	Slotted
PA23-160 Apache	58-62	23-1164 - 2040	**PA23-C1P**	Phillips
PA23-235 Apache **PA23-250 Aztec, B**	62-65 60-64	27-505 - 622 27-1 - 2504	**PA23-C2**	Slotted
			PA23-C2P	Phillips
			PA-NP1S	**Option:** Nose Panels Apache/Aztec No Six Place
			PA-NP1P	**Option:** Nose Panels Apache/Aztec No Six Place
			PA-NP2S	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP2P	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP3S	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-NP3P	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-FD1W	**Option:** Fuel Doors Winged
PA23-250 Aztec Early C	64	27-2505 - 2736	**PA23-C3**	Southco® Slotted
			PA-NP2S	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP2P	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP3S	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-NP3P	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-FD1W	**Option:** Fuel Doors Winged
PA23-250 Aztec C-F	64-81	27-2737 thru 8154029	**PA23-C4**	Collared Slotted
			PA23-C4P	Phillips
			PA-NAC1S	**Option:** Nacelle Panels 27-4426, 27-4574 On
			PA-NAC1P	**Option:** Nacelle Panels 27-4426, 27-4574 On
			PA-NP2S	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP2P	**Option:** Nose Panels Aztec Six Place No Ice
			PA-NP3S	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-NP3P	**Option:** Nose Panels Aztec Six Place Ice Shields
			PA-FD1W	**Option:** Fuel Doors Winged
PA28-201T Turbo Dakota	79	28-7921002 - 7921091	**PA28-C1**	Collared Slotted
			PA28-C1P	Phillips
PA28R-201,T ArrowII,III	77-78	28R7635001 - 7803373	**PA28-C1**	Collared Slotted
PA28RT-201,T Arrow IV	79-87	28R7918001 - 86R8631001 On	**PA28-C1P**	Phillips

PIPER MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
PA30 Twin Comanche	63-65	30-1 thru 793, 799-901	**PA30-C1**	Southco®
			PA30-NP1	Nose Panel - Slotted Southco®
PA30 Twin Comanche	66-68	30-794 thru 798, 902 thru 2000	**PA30-C2**	Collared Slotted
			PA30-C2P	Phillips
PA39 Twin Comanche CR	70-72	39-1 - 152	**PA30-NP1**	**Option:** Nose Panel - Slotted Southco®
PA32-301 Saratoga	80-87	32-8006001 On	**PA32-C1**	Collared Slotted
PA32R-301T Saratoga	80-87	32R8029001 On	**PA32-C1P**	Phillips
PA34-200T Seneca II	75-78	34-7570001-7870474	**PA34-C2**	Slotted
			PA34-C2P	Phillips
			PA34-OPTION-1S	**Option:** Turtleback - Slotted CLoc®
			PA34-OPTION-1P	**Option:** Turtleback - Phillips CLoc®
PA34-200T Seneca II	79-81	34-7970001 - 8170085	**PA34-C3**	Collared Slotted
PA34-220T Seneca III	81-93	34-8133001 - 8633020	**PA34-C3P**	Phillips
PA34-220T Seneca IV	94-96	34-48038 - 34-49000	**PA34-OPTION-1S**	**Option:** Turtleback - Slotted CLoc®
			PA34-OPTION-1P	**Option:** Turtleback - Phillips CLoc®
PA34-200T Seneca V	97-08	34-49001 On	**PA34-C4**	Collared Slotted
			PA34-C4P	Phillips
			PA34-OPTION-4S	Turtleback - Slotted CLoc®
			PA34-OPTION-4P	Turtleback - Phillips CLoc®
PA42 Cheyenne - See PA31				
PA44-180,T Seminole	79-82	44-7995001 thru 8207020	**PA44-C1**	Collared Slotted
			PA44-C1P	Phillips
PA46 Malibu	84-On	46-8408001 On	**PA46-C1**	Collared Slotted
			PA46-C1P	Phillips
PA60-700P Aerostar	83-84	60-8423001 On	**PA700-C1**	Collared Slotted
			PA700-C1P	Phillips

MITSUBISHI MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
MU2 B thru P	67-78	6 thru 459	**MU2-C1**	Collared Slotted
MU2 Solitaire	79-85		**MU2-C1P**	Phillips
MU2 Marquise	79-85	700 thru 1569	**MU2-C2**	Collared Slotted
			MU2-C2P	Phillips

MOONEY MODEL	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
Mark20A,B Super21	55-64	All	**M20-BAT1P**	Battery Access Panel - Phillips Southco®
M20C,D,E,F	1965	All	**M20-C2**	Collared Slotted
			M20-C2P	Phillips
			M20-BAT1S	**Option:** Battery Access Panel - Slotted South-
			M20-BAT1P	**Option:** Battery Access Panel - Phillips South-
M20C		All	**M20-C3**	Collared Slotted
M20E,F,G 66-78	66-78	All	**M20-C3P**	Phillips
M20C Ranger, M20E Chaparral, M20F Super21/Executive, M20G Statesman				
M201 M20J	77-84	24-0001-1458	**M20-C5**	Collared Slotted
			M20-C5P	Phillips
			M20-BAT1S	**Option:** Battery Access Panel - Slotted South-
			M20-BAT1P	**Option:** Battery Access Panel - Phillips South-
			M20-BP1S	**Option:** Belly Access Panel - Slotted CLoc®
			M20-BP1P	**Option:** Belly Access Panel - Phillips CLoc®
M201 M20J-L/M	77-87	24-1459 On	**M20-C6**	Collared Slotted
			M20-C6P	Phillips
			M20-BAT2S	**Option:** Battery Access Panel - Slotted CLoc®
			M20-BAT2P	**Option:** Battery Access Panel - Phillips CLoc®
			M20-BP1S	**Option:** Belly Access Panel - Slotted CLoc®
			M20-BP1P	**Option:** Belly Access Panel - Phillips CLoc®
M231 M20K-L/M	79-85	25-0001 On	**M20-C6A**	Collared Slotted
			M20-C6AP	Phillips
			M20-BAT1S	**Option:** Battery Access Panel - Slotted South-
			M20-BAT1P	**Option:** Battery Access Panel - Phillips South-
			M20-BP1S	**Option:** Belly Access Panel - Slotted CLoc®
			M20-BP1P	**Option:** Belly Access Panel - Phillips CLoc®
M252 TSE M20K	85-On	25-1000 On	**M20-C7**	Collared Slotted
			M20-C7P	Phillips
			M20-BAT2S	**Option:** Battery Access Panel - Slotted CLoc®
			M20-BAT2P	**Option:** Battery Access Panel - Phillips CLoc®

AERO COMMANDER	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
500,520,560,720	52-60	All	**AC500-C1**	Collared Slotted
680, 680E Round Cowl			**AC500-C1P**	Phillips

AERO COMMANDER	YEAR	SERIAL#	REPLACEMENT KIT	KIT DESCRIPTION
500A,B,U,560F,680		All	**AC500-C2**	Collared Slotted
560FP,FL,FLP Flat Cowl	60-69		**AC500-C2P**	Phillips
685	72-74	12000 - 12066	**AC500-C2A**	Collared Slotted
			AC500-C2AP	Phillips
690	72-85	1101 thru 11565, 15001 thru 15042	**AC500-C4**	Collared Slotted
			AC500-C4P	Phillips
695	80-85	95000 thru 95084, 96000 thru 96208	**AC690-NA1S**	**Option:** Nose Access Panel - Slotted
			AC690-NA1P	**Option:** Nose Access Panel - Phillips



SKYBOLT
AEROSPACE FASTENERS

Trim & Fuel Tank Kits

CESSNA MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
C120/140		All	**C-120/140**	None
C150		17001-79406	**C-150/152**	**C150-FT1** **C150-FTLR**
A150 K-M Aerobat (and Commuter)	70-77			
C152	78-85	79406-86035		
A152	78-86	0735-1049		
C170	All		**C-170**	None
C172-172 G-Q	56-On	28000-On	**C-172/172RG**	**C172-FT1**
Hawk XP,XPII	77-81	R172-2000-3454		
Cutlass RG	80-85	All		
C172R	1996-On	80001 On		
C172S		8001 On		
C175	58-62	55001-57119	**C-172/172RG**	**C172-FT1**
C177 A, B & RG	71-81	All	**C-177/177RG**	None
C180	53-62	30000-51183	**C-180/185**	**C180-FT1**
C180	63-78	51184-53000	**C-180/185**	**C180-FT2**
C185	61-78	0001-03683		
C180	79-81	53001-53203	**C-180/185**	**C180-FT2 or FT3**
C185	79-85	03684-On		
C182 A-D	53-61	33000-53598	**C-182/182RG**	**C182-FT1**
C182 E-Q	62-78	53599-61425	**C-182/182RG**	**C182-FT2**
				C182-FT2LR
C182 Q, R	79-86	66591-On	**C-182/182RG**	**C182-FT3**
T182 R,TR,RG	78-86	All	**C-182/182RG**	None
C182 S	97-00	80004-80944 Non-Turbo		
C182 T	01-On	8001-On Non-Turbo		

CESSNA MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
182T	01-On	80945 On Turbo	**C-182/182RG**	None
T182T	01-On	8001 On Turbo		
C188 Agwagon	66-83	All	**C-Agwagon**	None
C205	63-64	0001-0577	**C-206/207**	**C206-FT1** **C206-FT1LR**
C206	64	0001-0275		
U,TU206	65-84	0276-06846		
P,TP206	65-70	091-0647		
U206,TU	85-86	06847-On		
C206, T206	97-On	08000-On		
C207, T207	69-84	All		
C208	85-On	All	**C-208**	None
C210 A	60-61	57001-57840	**C-210**	**C210-FT1**
C210 B-F	62-66	57841-58818	**C-210**	**C210-FT2** **C210-FT2LR**
T210 F	66	0001-0197		
C210 G-J	67-69	58819-59199	**C-210**	**C210-FT3**
T210 G-J	67-69	0198-0454		
C210 K-N	70-81	59200-64535 No Air Cond.	**C-210**	**C210-FT4**
C210 L-N	74-84	60090-64897 With Air Cond.		
C210, T210 N	74-84	60090-64897		
P210 N	78-83	0001-00834		
T210 R (Turbo)	85-86			
P210 R	85-86	0835-0874		
C210 R (Non Turbo)	85-86	64898-65009		
C310	55-63	35000-35546	**C-310-1**	**C310-FT1**
C310 B-K	58-66	35655-39299	**C-310-2**	**C310-FT1**
C310 L-N	67-68	N0001-N0198 Non Turbo	**C-310-2**	**C310-FT2**
C310 P-R	69-81	P0001-R2140 Non Turbo	**C-310-2**	**C310-FT3**
		All Turbo		
C320 A-E SkyKnight	62-68	All		
C310 P-R	69-81	P0001-R2140	**C-310-2**	**C310-FT3**
		All Turbo		
C336 Skymaster 63-64	63-64	0001-0195 Fixed Gear	**C-336/337**	**C337-FT1**
C337 Skymaster 65-80	65-80	0002-01951		
C337 P		0001-0356		
C340 A	All		**C-335/340**	**C340-FT1**

CESSNA MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
C401, 402 A, B		All	**C-401/402**	**C400-FT1**
C402 C	79-85	402C0001-0808	**C-401/402**	**C402C-FT1**
C404 Titan	77-81	0001-0859	**C-401/402**	None
C411	65-68	0002-0300	**C-411/414**	**C411-FT1**
C414, C414 II	70-77	0001-0965		
C414 A Chancellor		0001-1212	**C-411/414**	**C414-FT2**
C414 A III	78-85			
C421 A, B	68-75	0001-0970	**C-421**	**C400-FT1**
C421 C Golden Eagle	76-85	0001-1807		

BEECHCRAFT MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
Musketeer23	63-66	M1-900	**BE-Musketeer**	None
Musketeer23 A,B	66-69	M901-1284		
Musketeer24	66-69	MA1-363		
Sport150	66-69	MB1-480		
Musketeer23 C	70-On	M1285-1361		
Musketeer24	70	MA364-On		
Sport150	70-78	MB481-905		
Sundowner 180	72-83	M1362-2392		
Sierra 200	70-83	MC2-795		
Debonair33 A-C	60-67	CD1-CD1234	**BE-Bonanza**	None
Debonair C33A, E33A	66-69	CE1-CE289		
Bonanza 35-N35	47-61	D1-D6567		
Bonanza N-V35A	61-69	D6568-D9068		
Bonanza F33,G33	70-73	CD1235-CD1304		
Bonanza F33A,F33C	70-94	CE290-On, CJ26-On		
Bonanza 36, A36	68-87	E1-On		
Bonanza V35B	70-82	D9069-10403		
A36TC, B36TC	79-87	EA1-On		
Baron 55,A55,B55,B55A	61-82	TC1 On	**BE-Baron55**	None
Baron C55, D55, E55		TE1 On		
Baron 58		TH1 On		
Baron 58P	76-86	TJ3 On	**BE-Baron58**	None
Baron 58TC		TK1 On		
Baron 56	67-71	TG1-TG94		

BEECHCRAFT MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
Duke 60, A60	68-73	P4-P246	**BE-Baron58**	None
Duke B60	74-82	P247-597		
King Air			**BE-Kingair**	None
Travelair 95	58-68	TD2-TD722	**BE-Travelair**	None

PIPER MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
PA-J3 Cub	45-47		**PA-J3 Cub**	None
PA-11	47-49		**PA-Super Cub**	None
PA-12 Cruiser	46-47			
PA-14 Cruiser	48			
PA-16 Clipper	49			
PA-18 Super Cub	50-83			
PA-20 Pacer	50-54	20-3 thru 1121		
PA22 TriPacer	51-63	22-1 thru 9848		
PA23-150 Apache	54-57	23-5 thru 1163	**PA-Apache**	None
PA23-160 Apache	58-62	23-1164 thru 2040		
PA23-235 Apache	62-65	27-505 thru 622	**PA-Aztec**	None
PA23-250 Aztec, B-F	60-81	27-1 thru 8154029		
PA24-180 Comanche	58-64	24-1 thru 3687	**PA-Comanche**	None
PA24-250 Comanche	58-64	24-1 thru 3687		
PA24-260 Comanche B, C	65-68	24-4000 thru 5028 On		
PA25 Pawnee B, C, D	60-81	25-3 thru 8156001 On	**PA-Pawnee**	None
PA28-140 Cherokee	64-77	28-20001 thru 7725290	**PA-140-235**	**PA28-FT1**
PA28-150/160 Cherokee	62-67	28-1 thru 4377 On		
PA28-151 Warrior	74-77	28-7415001 thru 7715314		
PA28-161 Warrior	77-86	28-7716001 thru 16099 On		
PA28-180 Cherokee	63-75	28-671 thru 7505259		
PA28-235 Charger, Pathf	68-77	28-11040 thru 7710089		
PA28R-180 Arrow	67-71	28-30004 thru 7135229	**PA-Arrow**	**PA28-FT1**
PA28R-200 Arrow	72-76	28R723500 thru 7635545		
PA28R-201, T ArrowII, III	77-78	28R7635001 thru 7803373		
PA28RT-201, T Arrow IV	79-87	28R7918001 - On		
PA28-181 Archer	76-87	28-7690001 thru 8690021	**PA-Warrior**	**PA28-FT2**
PA28-201T Turbo Dakota	79	28-7921002 thru 7921091		
PA28-236 Dakota	79-87	28-7911001 thru 8611004 On		

CESSNA MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
PA30 Twin Comanche	63-65	30-1 thru 793, 799-901	**PA-T Comanche**	None
PA30 Twin Comanche	66-68	30-794 thru 798, 902 thru 2000		
PA39 Twin Comanche CR	70-72	39-1 thru 152		
PA31-300,310,325 Navajo	67-84	31-2 On	**PA-Navajo**	None
PA31-350 Chieftain	73-84	31-7305001 thru 8452023		
PA31P Press Navajo	70-77	31P-3 thru 7730012		
PA31T Cheyenne I, II, III	48-84	31T-7804001 On	**PA-Cheyenne**	None
PA42-720 Cheyenne III	80-87	42-7801001 On		
PA32-260 Cherokee 6	65-78	32-1 thru 7800008	**PA-Cherokee Six**	**PA32-FT1**
PA32-300 Cherokee 6	65-78	32-40000 thru 780222		
PA32-300 Cherokee	79	32-7940001 Up	**PA-Cherokee Six**	**PA32-FT2**
PA32R-300, Lance	76-79	32R7680001 thru 7987126	**PA-Cherokee Six**	**PA32-FT3**
PA32R-300T Lance T Tail	78-79	32R-7885001 Up	**PA-Cherokee Six**	**PA32-FT4**
PA32R-300T Turbo Lance T Tail		32R-7887001 Up		
PA32-301 Saratoga	80-87	32-8006001 On	**PA-Cherokee Six**	**PA32-FT5**
PA32R-301T Saratoga	80-87	32R8029001 On		
PA34-200 Seneca	72-74	34-7250001 thru 7450220	**PA-Seneca**	**PA34-FT1**
PA34-200T Seneca II	75-78	34-7570001-7870474		
PA34-200T Seneca II	79-81	34-7970001 thu 8170085	**PA-Seneca**	**PA34-FT2**
PA34-220T Seneca III	81-93	34-8133001 thru 8633020 On		
PA34-220T Seneca IV	94-96	34-48038 thru 34-49000		
PA34-200T Seneca V	97-08	34-49001 On		
PA36 Pawnee, Brave	73-83	36-7360001 thru 8302025	**PA-Pawnee**	None
PA38-112 Tomahawk	78-82	38-78A0001 thru 82A0122	**PA-Tomahawk**	None
PA44-180, T Seminole	79-82	44-7995001 thru 8207020	**PA-Seminole**	None
PA46 Malibu	84-On	46-8408001 On	**PA-Malibu**	None
PA60-600/601/602 Aerostar	69-83	60-0001 On	**PA-Aerostar**	None
PA60-700P Aerostar	83-84	60-8423001 On		

MITSUBISHI MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
MU2 B thru P	67-78	6 thru 459	**MU2**	**MU2-FT1**
MU2 Solitaire	79-85			
MU2 Marquise	79-85	700 thru 1569		

MOONEY MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
Mark20 A, B Super21	55-64	All	**M-20B**	None
M20 C, D, E, F	65	All	**M-20C/D**	None
			M-20E/G	None
M20 C		All	**M-20C/D**	None
M20 E, F, G	66-78	All	**M-20E/G**	None
M20C Ranger				
M20E Chaparral				
M20F Super21/Executive				
M20G Statesman				
M201 M20J 77-84		24-0001-1458	**M-201/231**	None
M201 M20J-L/M 77-87		24-1459 On		
M231 M20K-L/M 79-85		25-0001 On		
M252 TSE M20K 85 On		25-1000 On	**M-252**	None

AERO COMMANDER MODEL	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
500, 520, 560, 720		All	**R-Commander 500**	None
680, 680E Round Cowl	52-60			
500A, B, U, 560F,680		All		
560FP, FL, FLP Flat Cowl	60-69			
685	72-74	12000 thru 12066		
500S	68-80	1755 thru 3327		
690	72-85	1101 thru 11565, 15001 thru 15042		
695	80-85	95000 thru 95084, 96000 thru 96208		

OTHER AIRCRAFT	YEAR	SERIAL#	TRIM KIT	FUEL TANK KIT
Bel-Citabria			**Bel-Citabria**	None
Bel-Scout			**Bel-Scout**	None
Bel-Viking			**Bel-Viking**	None
Ercoupe			**Ercoupe**	None
G-AA1/AA1B			**G-AA1/AA1B**	None
G-Ag Cat			**G-Ag Cat**	None
G-Tiger			**G-Tiger**	None
Lake Amp			**Lake Amp**	None

SKYBOLT
AEROSPACE FASTENERS

Vans RV Fastener Kits

2020 Kits Include Diamondhead® Fasteners, High Shear Anti-Float Grommets, SK-RVFS1 Interlocking Flanges, SK-RVC1 Cleko Adapters, Rivet Kit.

KIT W/FLANGE	KIT W/O FLANGE	DESCRIPTION	STUDS	WEIGHT/LBS.
RV4J-C1S	**RV4-C1S**	Vans RV4 - Complete Kit	38 Collared Slotted Fasteners	1.919
RV4J-C1P	**RV4-C1P**	Vans RV4 - Complete Kit	Phillips	
RV4J-C1S-U	**RV4-C1S-U**	Vans RV4 - Upper (FW/Side) Kit	30 Collared Slotted Fasteners	1.515
RV4J-C1P-U	**RV4-C1P-U**	Vans RV4 - Upper (FW/Side) Kit	Phillips	
RV4J-C1S-F	**RV4-C1S-F**	Vans RV4 - Complete Firewall Kit	18 Collared Slotted Fasteners	0.909
RV4J-C1P-F	**RV4-C1P-F**	Vans RV4 - Complete Firewall Kit	Phillips	
RV4J-C1S-UF	**RV4-C1S-UF**	Vans RV4 - Upper Firewall Kit	10 Collared Slotted Fasteners	0.505
RV4J-C1P-UF	**RV4-C1P-UF**	Vans RV4 - Upper Firewall Kit	Phillips	
RV4J-C1S-S	**RV4-C1S-S**	Vans RV4 - Side Kit	20 Collared Slotted Fasteners	1.010
RV4J-C1P-S	**RV4-C1P-S**	Vans RV4 - Side Kit	Phillips	
RV4J-C1S-C	**RV4-C1S-C**	Vans RV4 - Cheek Cowl Kit	8 Collared Slotted Fasteners	0.404
RV4J-C1P-C	**RV4-C1P-C**	Vans RV4 - Cheek Cowl Kit	Phillips	
RV8J-C1S	**RV8-C1S**	Vans RV8 - Complete Kit	50 Collared Slotted Fasteners	2.525
RV8J-C1P	**RV8-C1P**	Vans RV8 - Complete Kit	Phillips	
RV8J-C1S-U	**RV8-C1S-U**	Vans RV8 - Upper (FW/Side) Kit	34 Collared Slotted Fasteners	1.717
RV8J-C1P-U	**RV8-C1P-U**	Vans RV8 - Upper (FW/Side) Kit	Phillips	
RV8J-C1S-F	**RV8-C1S-F**	Vans RV8 - Complete Firewall Kit	30 Collared Slotted Fasteners	1.515
RV8J-C1P-F	**RV8-C1P-F**	Vans RV8 - Complete Firewall Kit	Phillips	
RV8J-C1S-UF	**RV8-C1S-UF**	Vans RV8 - Upper Firewall Kit	14 Collared Slotted Fasteners	0.707
RV8J-C1P-UF	**RV8-C1P-UF**	Vans RV8 - Upper Firewall Kit	Phillips	
RV8J-C1S-S	**RV8-C1S-S**	Vans RV8 - Side Kit	20 Collared Slotted Fasteners	1.010
RV8J-C1P-S	**RV8-C1P-S**	Vans RV8 - Side Kit	Phillips	
RV679J-C1S	**RV679-C1S**	Vans RV6,7,9,12 - Complete Kit	52 Collared Slotted Fasteners	2.626
RV679J-C1P	**RV679-C1P**	Vans RV6,7,9,12 - Complete Kit	Phillips	
RV679J-C1S-U	**RV679-C1S-U**	Vans RV6,7,9,12 - Upper (FW/Side) Kit	36 Collared Slotted Fasteners	1.818
RV679J-C1P-U	**RV679-C1P-U**	Vans RV6,7,9,12 - Upper (FW/Side) Kit	Phillips	

KIT W/FLANGE	KIT W/O FLANGE	DESCRIPTION	STUDS	WEIGHT/LBS.
RV679J-C1S-F	**RV679-C1S-F**	Vans RV6,7,9,12 - Complete Firewall Kit	32 Collared Slotted Fasteners	1.616
RV679J-C1P-F	**RV679-C1P-F**	Vans RV6,7,9,12 - Complete Firewall Kit	Phillips	
RV679J-C1S-UF	**RV679-C1S-UF**	Vans RV6,7,9,12 - Upper Firewall Kit	17 Collared Slotted Fasteners	0.808
RV679J-C1P-UF	**RV679-C1P-UF**	Vans RV6,7,9,12 - Upper Firewall Kit	Phillips	
RV679J-C1S-S	**RV679-C1S-S**	Vans RV6,7,9,12 - Side Kit	20 Collared Slotted Fasteners	1.010
RV679J-C1P-S	**RV679-C1P-S**	Vans RV6,7,9,12 - Side Kit	Phillips	
RV1014J-C1S	**RV1014-C1S**	Vans RV10,14 - Complete Kit	62 Collared Slotted Fasteners	3.131
RV1014J-C1P	**RV1014-C1P**	Vans RV10,14 - Complete Kit	Phillips	
RV1014J-C1S-U	**RV1014-C1S-U**	Vans RV10,14 - Upper (FW/Side) Kit	45 Collared Slotted Fasteners	2.273
RV1014J-C1P-U	**RV1014-C1P-U**	Vans RV10,14 - Upper (FW/Side) Kit	Phillips	
RV1014J-C1S-F	**RV1014-C1S-F**	Vans RV10,14 - Complete Firewall Kit	36 Collared Slotted Fasteners	1.818
RV1014J-C1P-F	**RV1014-C1P-F**	Vans RV10,14 - Complete Firewall Kit	Phillips	
RV1014J-C1S-UF	**RV1014-C1S-UF**	Vans RV10,14 - Upper Firewall Kit	19 Collared Slotted Fasteners	0.960
RV1014J-C1P-UF	**RV1014-C1P-UF**	Vans RV10,14 - Upper Firewall Kit	Phillips	
RV1014J-C1S-S	**RV1014-C1S-S**	Vans RV10,14 - Side Kit	26 Collared Slotted Fasteners	1.313
RV1014J-C1P-S	**RV1014-C1P-S**	Vans RV10,14 - Side Kit	Phillips	

RV KIT	DESCRIPTION	STUDS	WEIGHT/LBS.
LANCAIR-C1S	Lancair - Complete Kit	62 Collared Slotted Fasteners (Inc SK2800S)	0.000
LANCAIR-C1P	Lancair - Complete Kit	Phillips (Inc SK28S3S around gear well)	
LANCAIR-C1S-U	Lancair - Upper Cowl Kit	45 Collared Slotted Fasteners	0.000
LANCAIR-C1P-U	Lancair - Upper Cowl Kit	Phillips	
LANCAIR-C1S-F	Lancair - Firewall Kit	36 Collared Slotted Fasteners	0.000
LANCAIR-C1P-F	Lancair - Firewall Kit	Phillips	
LANCAIR-C1S-UF	Lancair - Upper Firewall Kit	19 Collared Slotted Fasteners	0.000
LANCAIR-C1P-UF	Lancair - Upper Firewall Kit	Phillips	
LANCAIR-C1S-S	Lancair - Side Kit	26 Collared Slotted Fasteners	0.000
LANCAIR-C1P-S	Lancair - Side Kit	Phillips	

OPTIONS	DESCRIPTION	
RV-OD1	Oil Door Winged Fasteners (Skytanium®)	2 ea ZG2600-1W, SK213-2, Drill Template
RV-OD2	Oil Door SK28S3 Flush Fasteners (Stainless)	2 ea SK28S3-2S, SK213-2, Drill Template
SKYBEAM-40	Composite Reinforcement Strip 3"x40"	Per Strip
SK-RVFS1	Inter-connecting Flange (Patent Pending)	1ea Flange
SK-RVC	Cleko insert with no Magnet	1ea Insert
SK-RVCI	Cleko insert with Magnet	1ea Insert
SK-RVC114	Clecko Insert with Magnet Kit (RV3,4,8)	14 Sets
SK-RVC119	Clecko Insert with Magnet Kit (RV6,7,9,10)	19 Sets

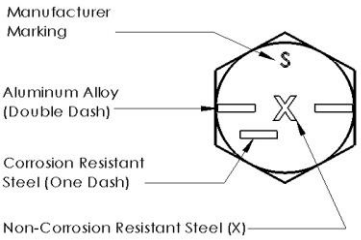
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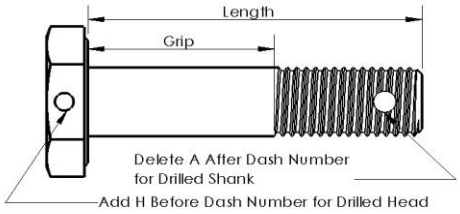
AN–MS–NAS Aircraft Hardware



SKYBOLT

AEROSPACE FASTENERS





SKYBOLT AEROMOTIVE CORP.

Steel
Undrilled - Drilled Shank

AN3 thru AN20 - AIRFRAME BOLTS

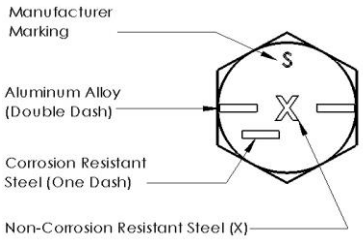
Steel - Cadmium plated per QQ-P-416, Type II, Class 3.

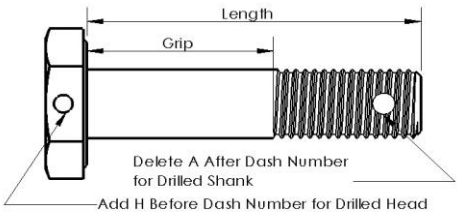
Minimum Tensile Strength (Steel and CRES) - 125,000psi. See Chart

(3/16) #1032 (.186-.189) **AN3 AN42 AN42B**				1/4-28 (.246-.249) **AN4 AN43 AN43B**				5/16-24 (.309-.312) **AN5 AN44 AN45**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN3-3	AN3-3A	1/16	15/32	AN4-3	AN4-3A	1/16	15/32				
AN3-4	AN3-4A	1/8	17/32	AN4-4	AN4-4A	1/16	17/32	AN5-4	AN5-4A	1/16	19/32
AN3-5	AN3-5A	1/4	21/32	AN4-5	AN4-5A	3/16	21/32	AN5-5	AN5-5A	3/16	23/32
AN3-6	AN3-6A	3/8	25/32	AN4-6	AN4-6A	5/16	25/32	AN5-6	AN5-6A	5/16	27/32
AN3-7	AN3-7A	1/2	29/32	AN4-7	AN4-7A	7/16	29/32	AN5-7	AN5-7A	7/16	31/32
AN3-10	AN3-10A	5/8	1-1/32	AN4-10	AN4-10A	9/16	1-1/32	AN5-10	AN5-10A	9/16	1-3/32
AN3-11	AN3-11A	3/4	1-5/32	AN4-11	AN4-11A	11/16	1-5/32	AN5-11	AN5-11A	11/16	1-7/32
AN3-12	AN3-12A	7/8	1-9/32	AN4-12	AN4-12A	13/16	1-9/32	AN5-12	AN5-12A	13/16	1-11/32
AN3-13	AN3-13A	1	1-13/32	AN4-13	AN4-13A	15/16	1-13/32	AN5-13	AN5-13A	15/16	1-15/32
AN3-14	AN3-14A	1-1/8	1-17/32	AN4-14	AN4-14A	1-1/16	1-17/32	AN5-14	AN5-14A	1-1/16	1-19/32
AN3-15	AN3-15A	1-1/4	1-21/32	AN4-15	AN4-15A	1-3/16	1-21/32	AN5-15	AN5-15A	1-3/16	1-23/32
AN3-16	AN3-16A	1-3/8	1-25/32	AN4-16	AN4-16A	1-5/16	1-25/32	AN5-16	AN5-16A	1-5/16	1-27/32
AN3-17	AN3-17A	1-1/2	1-29/32	AN4-17	AN4-17A	1-7/16	1-29/32	AN5-17	AN5-17A	1-7/16	1-31/32
AN3-20	AN3-20A	1-5/8	2-1/32	AN4-20	AN4-20A	1-9/16	2-1/32	AN5-20	AN5-20A	1-9/16	2-3/32
AN3-21	AN3-21A	1-3/34	2-5/32	AN4-21	AN4-21A	1-11/16	2-5/32	AN5-21	AN5-21A	1-11/16	2-7/32
AN3-22	AN3-22A	1-7/8	2-9/32	AN4-22	AN4-22A	1-13/16	2-9/32	AN5-22	AN5-22A	1-13/16	2-11/32
AN3-23	AN3-23A	2	2-13/32	AN4-23	AN4-23A	1-15/16	2-13/32	AN5-23	AN5-23A	1-15/16	2-15/32
AN3-24	AN3-24A	2-1/8	2-17/32	AN4-24	AN4-24A	2-1/16	2-17/32	AN5-24	AN5-24A	2-1/16	2-19/32
AN3-25	AN3-25A	2-1/4	2-21/32	AN4-25	AN4-25A	2-3/16	2-21/32	AN5-25	AN5-25A	2-3/16	2-23/32
AN3-26	AN3-26A	2-3/8	2-25/32	AN4-26	AN4-26A	2-5/16	2-25/32	AN5-26	AN5-26A	2-5/16	2-27/32
AN3-27	AN3-27A	2-1/2	2-29/32	AN4-27	AN4-27A	2-7/16	2-29/32	AN5-27	AN5-27A	2-7/16	2-31/32
AN3-30	AN3-30A	2-5/8	3-1/32	AN4-30	AN4-30A	2-9/16	3-1/32	AN5-30	AN5-30A	2-9/16	3-3/32
AN3-31	AN3-31A	2-3/4	3-5/32	AN4-31	AN4-31A	2-11/16	3-5/32	AN5-31	AN5-31A	2-11/16	3-7/32
AN3-32	AN3-32A	2-7/8	3-9/32	AN4-32	AN4-32A	2/13/16	3-9/32	AN5-32	AN5-32A	2-13/16	3-11/32
AN3-33	AN3-33A	3	3-13/32	AN4-33	AN4-33A	2-15/16	3-13/32	AN5-33	AN5-33A	2-15/16	3-15/32
AN3-34	AN3-34A	3-1/8	3-17/32	AN4-34	AN4-34A	3-1/16	3-17/32	AN5-34	AN5-34A	3-1/16	3-19/32
AN3-35	AN3-35A	3-1/4	3-21/32	AN4-35	AN4-35A	3-3/16	3-21/32	AN5-35	AN5-35A	3-3/16	3-23/32
AN3-36	AN3-36A	3-3/8	3-25/32	AN4-36	AN4-36A	3-5/16	3-25/32	AN5-36	AN5-36A	3-5/16	3-27/32
AN3-37	AN3-37A	3-1/2	3-29/32	AN4-37	AN4-37A	3-7/16	3-29/32	AN5-37	AN5-37A	3-7/16	3-31/32
AN3-40	AN3-40A	3-5/8	4-1/32	AN4-40	AN4-40A	3-9/16	4-1/32	AN5-40	AN5-40A	3-9/16	4-3/32
AN3-41	AN3-41A	3-3/4	4-5/32	AN4-41	AN4-41A	3-11/16	4-5/32	AN5-41	AN5-41A	3-11/16	4-7/32
AN3-42	AN3-42A	3-7/8	4-9/32	AN4-42	AN4-42A	3-13/16	4-9/32	AN5-42	AN5-42A	3-13/16	4-11/32
AN3-43	AN3-43A	4	4-13/32	AN4-43	AN4-43A	3-15/16	4-13/32	AN5-43	AN5-43A	3-15/16	4-15/32
AN3-44	AN3-44A	4-1/18	4/17/32	AN4-44	AN4-44A	4-1/16	4/17/32	AN5-44	AN5-44A	4-1/16	4-19/32
AN3-45	AN3-45A	4-1/14	4-21/32	AN4-45	AN4-45A	4-3/16	4-21/32	AN5-45	AN5-45A	4-3/16	4-23/32
AN3-46	AN3-46A	4-3/8	4-25/32	AN4-46	AN4-46A	4-5/16	4-25/32	AN5-46	AN5-46A	4-5/16	4-27/32
AN3-47	AN3-47A	4-1/2	4-29/32	AN4-47	AN4-47A	4-7/16	4-29/32	AN5-47	AN5-47A	4-7/16	4-31/32
AN3-50	AN3-50A	4-5/8	5-1/32	AN4-50	AN4-50A	4-9/16	5-1/32	AN5-50	AN5-50A	4-9/16	5-3/32
AN3-51	AN3-51A	4-3/4	5-5/32	AN4-51	AN4-51A	4-11/16	5-5/32	AN5-51	AN5-51A	4-11/16	5-7/32
AN3-52	AN3-52A	4-7/8	5-9/32	AN4-52	AN4-52A	4/13/16	5-9/32	AN5-52	AN5-52A	4-13/16	5-11/32
AN3-53	AN3-53A	5	5-13/32	AN4-53	AN4-53A	4-15/16	5-13/32	AN5-53	AN5-53A	4-15/16	5-15/32
AN3-54	AN3-54A	5-1/18	5-17/32	AN4-54	AN4-54A	5-1/16	5-17/32	AN5-54	AN5-54A	5-1/16	5-19/32
AN3-55	AN3-55A	5-1/14	5-21/32	AN4-55	AN4-55A	5-3/16	5-21/32	AN5-55	AN5-55A	5-3/16	5-23/32
AN3-56	AN3-56A	5-3/8	5-25/32	AN4-56	AN4-56A	5-5/16	5-25/32	AN5-56	AN5-56A	5-5/16	5-27/32
AN3-57	AN3-57A	5-1/2	5-29/32	AN4-57	AN4-57A	5-7/16	5-29/32	AN5-57	AN5-57A	5-7/16	5-31/32
AN3-60	AN3-60A	5-5/8	6-1/32	AN4-60	AN4-60A	5-9/16	6-1/32	AN5-60	AN5-60A	5-9/16	6-3/32

	AN3	AN4	AN5
Washer	AN960-10	AN960-416	AN960-516
Nut	MS20365-1032A	MS20365-428A	MS20365-524A
Cotter Pin	AN380-2-1	AN380-2-2	AN380-2-2
Hole	1/16	1/16	1/16

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SKYBOLT AEROMOTIVE CORP.

Steel
Undrilled - Drilled Shank

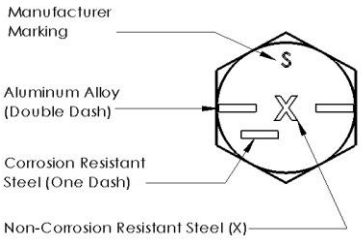
AN6 thru AN8 - AIRFRAME BOLTS

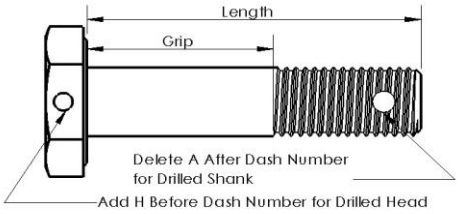
Steel - Cadmium plated per QQ-P-416, Type II, Class 3.
Minimum Tensile Strength (Steel and CRES) - 125,000psi. See Chart

3/8-24 (.371-.374) **AN6 AN46**				7/16-20 (.433-.437) **AN7 AN47**				1/2-20 (.495-.499) **AN8 AN48**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN6-5	AN6-5A	1/16	45/64	AN7-5	AN7-5A	1/16	23/32				
AN6-6	AN6-6A	3/16	53/64	AN7-6	AN7-6A	3/16	27/32	AN8-6	AN8-6A	1/16	27/32
AN6-7	AN6-7A	5/16	61/64	AN7-7	AN7-7A	5/16	31/32	AN8-7	AN8-7A	3/16	31/32
AN6-10	AN6-10A	7/16	1-5/64	AN7-10	AN7-10A	7/16	1-1/32	AN8-10	AN8-10A	5/16	1-1/32
AN6-11	AN6-11A	9/16	1-13/64	AN7-11	AN7-11A	9-16	1-7/32	AN8-11	AN8-11A	7/16	1-7/32
AN6-12	AN6-12A	11/16	1-21/64	AN7-12	AN7-12A	11/16	1-11/32	AN8-12	AN8-12A	9/16	1-11/32
AN6-13	AN6-13A	13/16	1-29/64	AN7-13	AN7-13A	13/16	1-15/32	AN8-13	AN8-13A	11/16	1-15/32
AN6-14	AN6-14A	15/16	1-37/64	AN7-14	AN7-14A	15/16	1-19/32	AN8-14	AN8-14A	13/16	1-19/32
AN6-15	AN6-15A	1-1/16	1-45/64	AN7-15	AN7-15A	1-1/16	1-23/32	AN8-15	AN8-15A	15/16	1-23/32
AN6-16	AN6-16A	1-3/16	1-53/64	AN7-16	AN7-16A	1-3/16	1-27/32	AN8-16	AN8-16A	1-1/16	1-27/32
AN6-17	AN6-17A	1-5/16	1-61/64	AN7-17	AN7-17A	1-5/16	1-31/32	AN8-17	AN8-17A	1-3/16	1-31/32
AN6-20	AN6-20A	1-7/16	2-5/64	AN7-20	AN7-20A	1-7/16	2-3/32	AN8-20	AN8-20A	1-5/16	2-3/32
AN6-21	AN6-21A	1-9/16	2-13/64	AN7-21	AN7-21A	1-6/16	2-7/32	AN8-21	AN8-21A	1-7/16	2-7/32
AN6-22	AN6-22A	1-11/16	2-21/64	AN7-22	AN7-22A	1-11/16	2-11/32	AN8-22	AN8-22A	1-9/16	2-11/32
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AN6-27	AN6-27A	2-5/16	2-61/64	AN7-27	AN7-27A	2-5/16	2-31/32	AN8-27	AN8-27A	2-3/16	2-31/32
AN6-30	AN6-30A	2-7/16	3-5/64	AN7-30	AN7-30A	2-7/16	3-3/32	AN8-30	AN8-30A	2-5/16	3-3/32
AN6-31	AN6-31A	2-9/16	3-13/64	AN7-31	AN7-31A	2-9/16	3-7/32	AN8-31	AN8-31A	2-7/16	3-7/32
AN6-32	AN6-32A	2-11/16	3-21/64	AN7-32	AN7-32A	2-11/16	3-11/32	AN8-32	AN8-32A	2-9/16	3-11/32
AN6-33	AN6-33A	2-13/16	3-29/64	AN7-33	AN7-33A	2-13/16	3-15/32	AN8-33	AN8-33A	2-11/16	3-15/32
AN6-34	AN6-34A	2-15/16	3-37/64	AN7-34	AN7-34A	2-15/16	3-19/32	AN8-34	AN8-34A	2-13/16	3-19/32
AN6-35	AN6-35A	3-1/16	3-45/64	AN7-35	AN7-35A	3-1/16	3-23/32	AN8-35	AN8-35A	2-15/16	3-23/32
AN6-36	AN6-36A	3-3/16	3-53/64	AN7-36	AN7-36A	3-3/16	3-27/32	AN8-36	AN8-36A	3-1/16	3-27/32
AN6-37	AN6-37A	3-5/16	3-61/64	AN7-37	AN7-37A	3-5/16	3-31/32	AN8-37	AN8-37A	3-3/16	3-31/32
AN6-40	AN6-40A	3-7/16	4-5/64	AN7-40	AN7-40A	3-7/16	4-3/32	AN8-40	AN8-40A	3-5/16	4-3/32
AN6-41	AN6-41A	3-6/16	4-13/64	AN7-41	AN7-41A	3-9/16	4-7/32	AN8-41	AN8-41A	3-7/16	4-7/32
AN6-42	AN6-42A	3-11/16	4-21/64	AN7-42	AN7-42A	3-11/16	4-11/32	AN8-42	AN8-42A	3-9/16	4-11/32
AN6-43	AN6-43A	3-13/16	4-29/64	AN7-43	AN7-43A	3-13/16	4-15/32	AN8-43	AN8-43A	3-11/16	4-15/32
AN6-44	AN6-44A	3-15/16	4-37/64	AN7-44	AN7-44A	3-15/16	4-19/32	AN8-44	AN8-44A	3-13/16	4-19/32
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AN6-46	AN6-46A	4-3/16	4-53/64	AN7-46	AN7-46A	4-3/16	4-27/32	AN8-46	AN8-46A	4-1/16	4-27/32
AN6-47	AN6-47A	4-5/16	4-61/64	AN7-47	AN7-47A	4-5/16	4-31/32	AN8-47	AN8-47A	4-3/16	4-31/32
AN6-50	AN6-50A	4-7/16	5-5/64	AN7-50	AN7-50A	4-7/16	5-3/32	AN8-50	AN8-50A	4-5/16	5-3/32
AN6-51	AN6-51A	4-9/16	5-13/64	AN7-51	AN7-51A	4-9/16	5-7/32	AN8-51	AN8-51A	4-7/16	5-7/32
AN6-52	AN6-52A	4-11/16	5-21/64	AN7-52	AN7-52A	4-11/16	5-11/32	AN8-52	AN8-52A	4-9/16	5-11/32
AN6-53	AN6-53A	4-13/16	5-19/64	AN7-53	AN7-53A	4-13/16	5-15/32	AN8-53	AN8-53A	4-11/16	5-15/32
AN6-54	AN6-54A	4-15/16	5-37/64	AN7-54	AN7-54A	4-15/16	5-19/32	AN8-54	AN8-54A	4-13/16	5-19/32
AN6-55	AN6-55A	5-1/16	5-45/64	AN7-55	AN7-55A	5-1/16	5-23/32	AN8-55	AN8-55A	4-15/16	5-23/32
AN6-56	AN6-56A	5-3/16	5-53/64	AN7-56	AN7-56A	5-3/16	5-27/32	AN8-56	AN8-56A	5-1/16	5-27/32
AN6-57	AN6-57A	5-5/16	5-61/64	AN7-57	AN7-57A	5-5/16	5-31/32	AN8-57	AN8-57A	5-3/16	5-31/32
AN6-60	AN6-60A	5-7/16	6-5/64	AN7-60	AN7-60A	5-7/16	6-3/32	AN8-60	AN8-60A	5-5/16	6-3/32

	AN6	AN7	AN8
Washer	AN960-616	AN960-716	AN960-816
Nut	AN365-624	AN365-720	AN365-820
Cotter Pin	AN380-3-3	AN380-3-3	AN380-3-3
Hole	3/32	3/32	3/32

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SKYBOLT AEROMOTIVE CORP.

Steel - Drilled Head

Undrilled - Drilled Shank

AN3H thru AN5H - AIRFRAME BOLTS

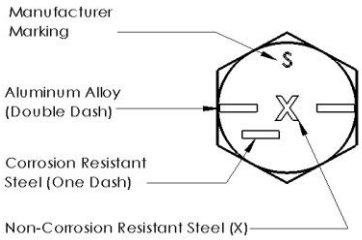
Steel - Cadmium plated per QQ-P-416, Type II, Class 3.

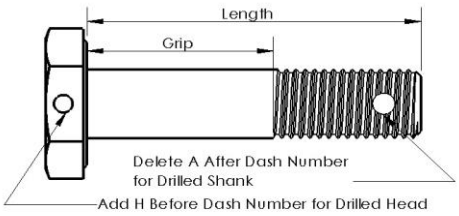
Minimum Tensile Strength (Steel and HRES) - 125,000psi. See Chart

(3/16) #1032 (.186-.189) **AN3H - Drilled Head**				1/4-28 (.246-.249) **AN4H - Drilled Head**				5/16-24 (.309-.312) **AN5H - Drilled Head**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN3H3	AN3H3A	1/16	15/32	AN4H3	AN4H3A	1/16	15/32				
AN3H4	AN3H4A	1/8	17/32	AN4H4	AN4H4A	1/16	17/32	AN5H4	AN5H4A	1/16	19/32
AN3H5	AN3H5A	1/4	21/32	AN4H5	AN4H5A	3/16	21/32	AN5H5	AN5H5A	3/16	23/32
AN3H6	AN3H6A	3/8	25/32	AN4H6	AN4H6A	5/16	25/32	AN5H6	AN5H6A	5/16	27/32
AN3H7	AN3H7A	1/2	29/32	AN4H7	AN4H7A	7/16	29/32	AN5H7	AN5H7A	7/16	31/32
AN3H10	AN3H10A	5/8	1-1/32	AN4H10	AN4H10A	9/16	1-1/32	AN5H10	AN5H10A	9/16	1-3/32
AN3H11	AN3H11A	3/4	1-5/32	AN4H11	AN4H11A	11/16	1-5/32	AN5H11	AN5H11A	11/16	1-7/32
AN3H12	AN3H12A	7/8	1-9/32	AN4H12	AN4H12A	13/16	1-9/32	AN5H12	AN5H12A	13/16	1-11/32
AN3H13	AN3H13A	1	1-13/32	AN4H13	AN4H13A	15/16	1-13/32	AN5H13	AN5H13A	15/16	1-15/32
AN3H14	AN3H14A	1-1/8	1-17/32	AN4H14	AN4H14A	1-1/16	1-17/32	AN5H14	AN5H14A	1-1/16	1-19/32
AN3H15	AN3H15A	1-1/4	1-21/32	AN4H15	AN4H15A	1-3/16	1-21/32	AN5H15	AN5H15A	1-3/16	1-23/32
AN3H16	AN3H16A	1-3/8	1-25/32	AN4H16	AN4H16A	1-5/16	1-25/32	AN5H16	AN5H16A	1-5/16	1-27/32
AN3H17	AN3H17A	1-1/2	1-29/32	AN4H17	AN4H17A	1-7/16	1-29/32	AN5H17	AN5H17A	1-7/16	1-31/32
AN3H20	AN3H20A	1-5/8	2-1/32	AN4H20	AN4H20A	1-9/16	2-1/32	AN5H20	AN5H20A	1-9/16	2-3/32
AN3H21	AN3H21A	1-3/34	2-5/32	AN4H21	AN4H21A	1-11/16	2-5/32	AN5H21	AN5H21A	1-11/16	2-7/32
AN3H22	AN3H22A	1-7/8	2-9/32	AN4H22	AN4H22A	1-13/16	2-9/32	AN5H22	AN5H22A	1-13/16	2-11/32
AN3H23	AN3H23A	2	2-13/32	AN4H23	AN4H23A	1-15/16	2-13/32	AN5H23	AN5H23A	1-15/16	2-15/32
AN3H24	AN3H24A	2-1/8	2-17/32	AN4H24	AN4H24A	2-1/16	2-17/32	AN5H24	AN5H24A	2-1/16	2-19/32
AN3H25	AN3H25A	2-1/4	2-21/32	AN4H25	AN4H25A	2-3/16	2-21/32	AN5H25	AN5H25A	2-3/16	2-23/32
AN3H26	AN3H26A	2-3/8	2-25/32	AN4H26	AN4H26A	2-5/16	2-25/32	AN5H26	AN5H26A	2-5/16	2-27/32
AN3H27	AN3H27A	2-1/2	2-29/32	AN4H27	AN4H27A	2-7/16	2-29/32	AN5H27	AN5H27A	2-7/16	2-31/32
AN3H30	AN3H30A	2-5/8	3-1/32	AN4H30	AN4H30A	2-9/16	3-1/32	AN5H30	AN5H30A	2-9/16	3-3/32
AN3H31	AN3H31A	2-3/4	3-5/32	AN4H31	AN4H31A	2-11/16	3-5/32	AN5H31	AN5H31A	2-11/16	3-7/32
AN3H32	AN3H32A	2-7/8	3-9/32	AN4H32	AN4H32A	2/13/16	3-9/32	AN5H32	AN5H32A	2-13/16	3-11/32
AN3H33	AN3H33A	3	3-13/32	AN4H33	AN4H33A	2-15/16	3-13/32	AN5H33	AN5H33A	2-15/16	3-15/32
AN3H34	AN3H34A	3-1/8	3-17/32	AN4H34	AN4H34A	3-1/16	3-17/32	AN5H34	AN5H34A	3-1/16	3-19/32
AN3H35	AN3H35A	3-1/4	3-21/32	AN4H35	AN4H35A	3-3/16	3-21/32	AN5H35	AN5H35A	3-3/16	3-23/32
AN3H36	AN3H36A	3-3/8	3-25/32	AN4H36	AN4H36A	3-5/16	3-25/32	AN5H36	AN5H36A	3-5/16	3-27/32
AN3H37	AN3H37A	3-1/2	3-29/32	AN4H37	AN4H37A	3-7/16	3-29/32	AN5H37	AN5H37A	3-7/16	3-31/32
AN3H40	AN3H40A	3-5/8	4-1/32	AN4H40	AN4H40A	3-9/16	4-1/32	AN5H40	AN5H40A	3-9/16	4-3/32
AN3H41	AN3H41A	3-3/4	4-5/32	AN4H41	AN4H41A	3-11/16	4-5/32	AN5H41	AN5H41A	3-11/16	4-7/32
AN3H42	AN3H42A	3-7/8	4-9/32	AN4H42	AN4H42A	3-13/16	4-9/32	AN5H42	AN5H42A	3-13/16	4-11/32
AN3-H43	AN3H43A	4	4-13/32	AN4H43	AN4H43A	3-15/16	4-13/32	AN5H43	AN5H43A	3-15/16	4-15/32
AN3H44	AN3H44A	4-1/18	4/17/32	AN4H44	AN4H44A	4-1/16	4/17/32	AN5H44	AN5H44A	4-1/16	4-19/32
AN3H45	AN3H45A	4-1/14	4-21/32	AN4H45	AN4H45A	4-3/16	4-21/32	AN5H45	AN5H45A	4-3/16	4-23/32
AN3H46	AN3H46A	4-3/8	4-25/32	AN4H46	AN4H46A	4-5/16	4-25/32	AN5H46	AN5H46A	4-5/16	4-27/32
AN3H47	AN3H47A	4-1/2	4-29/32	AN4H47	AN4H47A	4-7/16	4-29/32	AN5H47	AN5H47A	4-7/16	4-31/32
AN3H50	AN3H50A	4-5/8	5-1/32	AN4H50	AN4H50A	4-9/16	5-1/32	AN5H50	AN5H50A	4-9/16	5-3/32
AN3H51	AN3H51A	4-3/4	5-5/32	AN4H51	AN4H51A	4-11/16	5-5/32	AN5H51	AN5H51A	4-11/16	5-7/32
AN3H52	AN3H52A	4-7/8	5-9/32	AN4H52	AN4H52A	4/13/16	5-9/32	AN5H52	AN5H52A	4-13/16	5-11/32
AN3H53	AN3H53A	5	5-13/32	AN4H53	AN4H53A	4-15/16	5-13/32	AN5H53	AN5H53A	4-15/16	5-15/32
AN3H54	AN3H54A	5-1/18	5-17/32	AN4H54	AN4H54A	5-1/16	5-17/32	AN5H54	AN5H54A	5-1/16	5-19/32
AN3H55	AN3H55A	5-1/14	5-21/32	AN4H55	AN4H55A	5-3/16	5-21/32	AN5H55	AN5H55A	5-3/16	5-23/32
AN3H56	AN3H56A	5-3/8	5-25/32	AN4H56	AN4H56A	5-5/16	5-25/32	AN5H56	AN5H56A	5-5/16	5-27/32
AN3H57	AN3H57A	5-1/2	5-29/32	AN4H57	AN4H57A	5-7/16	5-29/32	AN5H57	AN5H57A	5-7/16	5-31/32
AN3H60	AN3H60A	5-5/8	6-1/32	AN4H60	AN4H60A	5-9/16	6-1/32	AN5H60	AN5H60A	5-9/16	6-3/32

	AN3	AN4	AN5
Washer	AN960-10	AN960H416	AN960H516
Nut	MS20365-1032A	MS20365-428A	MS20365-524A
Cotter Pin	AN381-2-6	AN381-2-8	AN380-2-8
Hole	1/16	1/16	1/16

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SKYBOLT AEROMOTIVE CORP.

Steel - Drilled Head

Undrilled - Drilled Shank

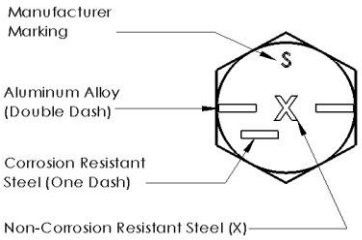
AN6H thru AN8H - AIRFRAME BOLTS

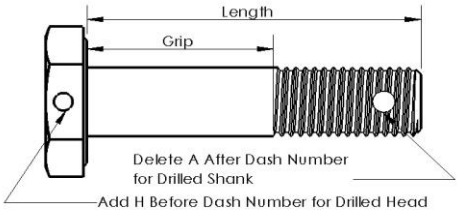
Steel - Cadmium plated per QQ-P-416, Type II, Class 3.
Minimum Tensile Strength (Steel and CRES) - 125,000psi. See Chart

3/8-24 (.371-.374) **AN6H - Drilled Head**				7/16-20 (.433-.437) **AN7H - Drilled Head**				1/2-20 (.495-.499) **AN8H - Drilled Head**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN6H5	AN6H5A	1/16	45/64	AN7H5	AN7H5A	1/16	23/32				
AN6H6	AN6H6A	3/16	53/64	AN7H6	AN7H6A	3/16	27/32	AN8H6	AN8H6A	1/16	27/32
AN6H7	AN6H7A	5/16	61/64	AN7H7	AN7H7A	5/16	31/32	AN8H7	AN8H7A	3/16	31/32
AN6H10	AN6H10A	7/16	1-5/64	AN7H10	AN7H10A	7/16	1-1/32	AN8H10	AN8H10A	5/16	1-1/32
AN6H11	AN6H11A	9/16	1-13/64	AN7H11	AN7H11A	9-16	1-7/32	AN8H11	AN8H11A	7/16	1-7/32
AN6H12	AN6H12A	11/16	1-21/64	AN7H12	AN7H12A	11/16	1-11/32	AN8H12	AN8H12A	9/16	1-11/32
AN6H13	AN6H13A	13/16	1-29/64	AN7H13	AN7H13A	13/16	1-15/32	AN8H13	AN8H13A	11/16	1-15/32
AN6H14	AN6H14A	15/16	1-37/64	AN7H14	AN7H14A	15/16	1-19/32	AN8H14	AN8H14A	13/16	1-19/32
AN6H15	AN6H15A	1-1/16	1-45/64	AN7H15	AN7H15A	1-1/16	1-23/32	AN8H15	AN8H15A	15/16	1-23/32
AN6H16	AN6H16A	1-3/16	1-53/64	AN7H16	AN7H16A	1-3/16	1-27/32	AN8H16	AN8H16A	1-1/16	1-27/32
AN6H17	AN6H17A	1-5/16	1-61/64	AN7H17	AN7H17A	1-5/16	1-31/32	AN8H17	AN8H17A	1-3/16	1-31/32
AN6H20	AN6H20A	1-7/16	2-5/64	AN7H20	AN7H20A	1-7/16	2-3/32	AN8H20	AN8H20A	1-5/16	2-3/32
AN6H21	AN6H21A	1-9/16	2-13/64	AN7H21	AN7H21A	1-6/16	2-7/32	AN8H21	AN8H21A	1-7/16	2-7/32
AN6H22	AN6H22A	1-11/16	2-21/64	AN7H22	AN7H22A	1-11/16	2-11/32	AN8H22	AN8H22A	1-9/16	2-11/32
AN6H23	AN6H23A	1-13/16	2-29/64	AN7H23	AN7H23A	1-13/16	2-15/32	AN8H23	AN8H23A	1-11/16	2-15/32
AN6H24	AN6H24A	1-15/16	2-37/64	AN7H24	AN7H24A	1-15/16	2-16/32	AN8H24	AN8H24A	1-13/16	2-19/32
AN6H25	AN6H25A	2-1/16	2-45/64	AN7H25	AN7H25A	2-1/16	2-23/32	AN8H25	AN8H25A	1-15/16	2-23/32
AN6H26	AN6H26A	2-3/16	2-53/64	AN7H26	AN7H26A	2-3/16	2-27/32	AN8H26	AN8H26A	2-1/16	2-27/32
AN6H27	AN6H27A	2-5/16	2-61/64	AN7H27	AN7H27A	2-5/16	2-31/32	AN8H27	AN8H27A	2-3/16	2-31/32
AN6H30	AN6H30A	2-7/16	3-5/64	AN7H30	AN7H30A	2-7/16	3-3/32	AN8H30	AN8H30A	2-5/16	3-3/32
AN6H31	AN6H31A	2-9/16	3-13/64	AN7H31	AN7H31A	2-9/16	3-7/32	AN8H31	AN8H31A	2-7/16	3-7/32
AN6H32	AN6H32A	2-11/16	3-21/64	AN7H32	AN7H32A	2-11/16	3-11/32	AN8H32	AN8H32A	2-9/16	3-11/32
AN6H33	AN6H33A	2-13/16	3-29/64	AN7H33	AN7H33A	2-13/16	3-15/32	AN8H33	AN8H33A	2-11/16	3-15/32
AN6H34	AN6H34A	2-15/16	3-37/64	AN7H34	AN7H34A	2-15/16	3-19/32	AN8H34	AN8H34A	2-13/16	3-19/32
AN6H35	AN6H35A	3-1/16	3-45/64	AN7H35	AN7H35A	3-1/16	3-23/32	AN8H35	AN8H35A	2-15/16	3-23/32
AN6H36	AN6H36A	3-3/16	3-53/64	AN7H36	AN7H36A	3-3/16	3-27/32	AN8H36	AN8H36A	3-1/16	3-27/32
AN6H37	AN6H37A	3-5/16	3-61/64	AN7H37	AN7H37A	3-5/16	3-31/32	AN8H37	AN8H37A	3-3/16	3-31/32
AN6H40	AN6H40A	3-7/16	4-5/64	AN7H40	AN7H40A	3-7/16	4-3/32	AN8H40	AN8H40A	3-5/16	4-3/32
AN6H41	AN6H41A	3-6/16	4-13/64	AN7H41	AN7H41A	3-9/16	4-7/32	AN8H41	AN8H41A	3-7/16	4-7/32
AN6H42	AN6H42A	3-11/16	4-21/64	AN7H42	AN7H42A	3-11/16	4-11/32	AN8H42	AN8H42A	3-9/16	4-11/32
AN6H43	AN6H43A	3-13/16	4-29/64	AN7H43	AN7H43A	3-13/16	4-15/32	AN8H43	AN8H43A	3-11/16	4-15/32
AN6H44	AN6H44A	3-15/16	4-37/64	AN7H44	AN7H44A	3-15/16	4-19/32	AN8H44	AN8H44A	3-13/16	4-19/32
AN6H45	AN6H45A	4-1/16	4-45/64	AN7H45	AN7H45A	4-1/16	4-23/32	AN8H45	AN8H45A	3-15/16	4-23/32
AN6H46	AN6H46A	4-3/16	4-53/64	AN7H46	AN7H46A	4-3/16	4-27/32	AN8H46	AN8H46A	4-1/16	4-27/32
AN6H47	AN6H47A	4-5/16	4-61/64	AN7H47	AN7H47A	4-5/16	4-31/32	AN8H47	AN8H47A	4-3/16	4-31/32
AN6H50	AN6H50A	4-7/16	5-5/64	AN7H50	AN7H50A	4-7/16	5-3/32	AN8H50	AN8H50A	4-5/16	5-3/32
AN6H51	AN6H51A	4-9/16	5-13/64	AN7H51	AN7H51A	4-9/16	5-7/32	AN8H51	AN8H51A	4-7/16	5-7/32
AN6H52	AN6H52A	4-11/16	5-21/64	AN7H52	AN7H52A	4-11/16	5-11/32	AN8H52	AN8H52A	4-9/16	5-11/32
AN6H53	AN6H53A	4-13/16	5-19/64	AN7H53	AN7H53A	4-13/16	5-15/32	AN8H53	AN8H53A	4-11/16	5-15/32
AN6H54	AN6H54A	4-15/16	5-37/64	AN7H54	AN7H54A	4-15/16	5-19/32	AN8H54	AN8H54A	4-13/16	5-19/32
AN6H55	AN6H55A	5-1/16	5-45/64	AN7H55	AN7H55A	5-1/16	5-23/32	AN8H55	AN8H55A	4-15/16	5-23/32
AN6H56	AN6H56A	5-3/16	5-53/64	AN7H56	AN7H56A	5-3/16	5-27/32	AN8H56	AN8H56A	5-1/16	5-27/32
AN6H57	AN6H57A	5-5/16	5-61/64	AN7H57	AN7H57A	5-5/16	5-31/32	AN8H57	AN8H57A	5-3/16	5-31/32
AN6H60	AN6H60A	5-7/16	6-5/64	AN7H60	AN7H60A	5-7/16	6-3/32	AN8H60	AN8H60A	5-5/16	6-3/32

	AN6	AN7	AN8
Washer	AN960-616	AN960-716	AN960-816
Nut	MS20365-624A	MS20365-720A	MS20365-820A
Cotter Pin	AN380-3-12	AN380-3-12	AN380-3-12
Hole	3/32	3/32	3/32

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SKYBOLT AEROMOTIVE CORP.

Stainless

Undrilled - Drilled Shank

AN3C thru AN5C - AIRFRAME BOLTS

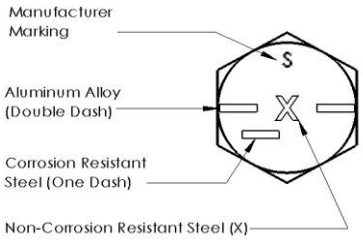
431 Stainless Steel (CRES).

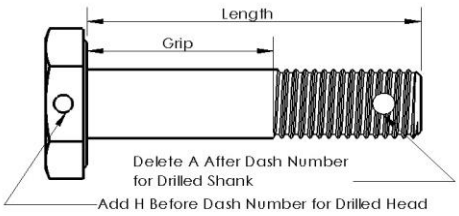
Minimum Tensile Strength (Steel and CRES) - 125,000psi. See Chart

(3/16) #1032 (.186-.189) **AN3C - Stainless**				1/4-28 (.246-.249) **AN4C - Stainless**				5/16-24 (.309-.312) **AN5C - Stainless**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN3C3	AN3C3A	1/16	15/32	AN4C3	AN4C3A	1/16	15/32				
AN3C4	AN3C4A	1/8	17/32	AN4C4	AN4C4A	1/16	17/32	AN5C4	AN5C4A	1/16	19/32
AN3C5	AN3C5A	1/4	21/32	AN4C5	AN4C5A	3/16	21/32	AN5C5	AN5C5A	3/16	23/32
AN3C6	AN3C6A	3/8	25/32	AN4C6	AN4C6A	5/16	25/32	AN5C6	AN5C6A	5/16	27/32
AN3C7	AN3C7A	1/2	29/32	AN4C7	AN4C7A	7/16	29/32	AN5C7	AN5C7A	7/16	31/32
AN3C10	AN3C10A	5/8	1-1/32	AN4C10	AN4C10A	9/16	1-1/32	AN5C10	AN5C10A	9/16	1-3/32
AN3C11	AN3C11A	3/4	1-5/32	AN4C11	AN4C11A	11/16	1-5/32	AN5C11	AN5C11A	11/16	1-7/32
AN3C12	AN3C12A	7/8	1-9/32	AN4C12	AN4C12A	13/16	1-9/32	AN5C12	AN5C12A	13/16	1-11/32
AN3C13	AN3C13A	1	1-13/32	AN4C13	AN4C13A	15/16	1-13/32	AN5C13	AN5C13A	15/16	1-15/32
AN3C14	AN3C14A	1-1/8	1-17/32	AN4C14	AN4C14A	1-1/16	1-17/32	AN5C14	AN5C14A	1-1/16	1-19/32
AN3C15	AN3C15A	1-1/4	1-21/32	AN4C15	AN4C15A	1-3/16	1-21/32	AN5C15	AN5C15A	1-3/16	1-23/32
AN3C16	AN3C16A	1-3/8	1-25/32	AN4C16	AN4C16A	1-5/16	1-25/32	AN5C16	AN5C16A	1-5/16	1-27/32
AN3C17	AN3C17A	1-1/2	1-29/32	AN4C17	AN4C17A	1-7/16	1-29/32	AN5C17	AN5C17A	1-7/16	1-31/32
AN3C20	AN3C20A	1-5/8	2-1/32	AN4C20	AN4C20A	1-9/16	2-1/32	AN5C20	AN5C20A	1-9/16	2-3/32
AN3C21	AN3C21A	1-3/34	2-5/32	AN4C21	AN4C21A	1-11/16	2-5/32	AN5C21	AN5C21A	1-11/16	2-7/32
AN3C22	AN3C22A	1-7/8	2-9/32	AN4C22	AN4C22A	1-13/16	2-9/32	AN5C22	AN5C22A	1-13/16	2-11/32
AN3C23	AN3C23A	2	2-13/32	AN4C23	AN4C23A	1-15/16	2-13/32	AN5C23	AN5C23A	1-15/16	2-15/32
AN3C24	AN3C24A	2-1/8	2-17/32	AN4C24	AN4C24A	2-1/16	2-17/32	AN5C24	AN5C24A	2-1/16	2-19/32
AN3C25	AN3C25A	2-1/4	2-21/32	AN4C25	AN4C25A	2-3/16	2-21/32	AN5C25	AN5C25A	2-3/16	2-23/32
AN3C26	AN3C26A	2-3/8	2-25/32	AN4C26	AN4C26A	2-5/16	2-25/32	AN5C26	AN5C26A	2-5/16	2-27/32
AN3C27	AN3C27A	2-1/2	2-29/32	AN4C27	AN4C27A	2-7/16	2-29/32	AN5C27	AN5C27A	2-7/16	2-31/32
AN3C30	AN3C30A	2-5/8	3-1/32	AN4C30	AN4C30A	2-9/16	3-1/32	AN5C30	AN5C30A	2-9/16	3-3/32
AN3C31	AN3C31A	2-3/4	3-5/32	AN4C31	AN4C31A	2-11/16	3-5/32	AN5C31	AN5C31A	2-11/16	3-7/32
AN3C32	AN3C32A	2-7/8	3-9/32	AN4C32	AN4C32A	2/13/16	3-9/32	AN5C32	AN5C32A	2-13/16	3-11/32
AN3C33	AN3C33A	3	3-13/32	AN4C33	AN4C33A	2-15/16	3-13/32	AN5C33	AN5C33A	2-15/16	3-15/32
AN3C34	AN3C34A	3-1/8	3-17/32	AN4C34	AN4C34A	3-1/16	3-17/32	AN5C34	AN5C34A	3-1/16	3-19/32
AN3C35	AN3C35A	3-1/4	3-21/32	AN4C35	AN4C35A	3-3/16	3-21/32	AN5C35	AN5C35A	3-3/16	3-23/32
AN3C36	AN3C36A	3-3/8	3-25/32	AN4C36	AN4C36A	3-5/16	3-25/32	AN5C36	AN5C36A	3-5/16	3-27/32
AN3C37	AN3C37A	3-1/2	3-29/32	AN4C37	AN4C37A	3-7/16	3-29/32	AN5C37	AN5C37A	3-7/16	3-31/32
AN3C40	AN3C40A	3-5/8	4-1/32	AN4C40	AN4C40A	3-9/16	4-1/32	AN5C40	AN5C40A	3-9/16	4-3/32
AN3C41	AN3C41A	3-3/4	4-5/32	AN4C41	AN4C41A	3-11/16	4-5/32	AN5C41	AN5C41A	3-11/16	4-7/32
AN3C42	AN3C42A	3-7/8	4-9/32	AN4C42	AN4C42A	3-13/16	4-9/32	AN5C42	AN5C42A	3-13/16	4-11/32
AN3-C43	AN3C43A	4	4-13/32	AN4C43	AN4C43A	3-15/16	4-13/32	AN5C43	AN5C43A	3-15/16	4-15/32
AN3C44	AN3C44A	4-1/18	4/17/32	AN4C44	AN4C44A	4-1/16	4/17/32	AN5C44	AN5C44A	4-1/16	4-19/32
AN3C45	AN3C45A	4-1/14	4-21/32	AN4C45	AN4C45A	4-3/16	4-21/32	AN5C45	AN5C45A	4-3/16	4-23/32
AN3C46	AN3C46A	4-3/8	4-25/32	AN4C46	AN4C46A	4-5/16	4-25/32	AN5C46	AN5C46A	4-5/16	4-27/32
AN3C47	AN3C47A	4-1/2	4-29/32	AN4C47	AN4C47A	4-7/16	4-29/32	AN5C47	AN5C47A	4-7/16	4-31/32
AN3C50	AN3C50A	4-5/8	5-1/32	AN4C50	AN4C50A	4-9/16	5-1/32	AN5C50	AN5C50A	4-9/16	5-3/32
AN3C51	AN3C51A	4-3/4	5-5/32	AN4C51	AN4C51A	4-11/16	5-5/32	AN5C51	AN5C51A	4-11/16	5-7/32
AN3C52	AN3C52A	4-7/8	5-9/32	AN4C52	AN4C52A	4/13/16	5-9/32	AN5C52	AN5C52A	4-13/16	5-11/32
AN3C53	AN3C53A	5	5-13/32	AN4C53	AN4C53A	4-15/16	5-13/32	AN5C53	AN5C53A	4-15/16	5-15/32
AN3C54	AN3C54A	5-1/18	5-17/32	AN4C54	AN4C54A	5-1/16	5-17/32	AN5C54	AN5C54A	5-1/16	5-19/32
AN3C55	AN3C55A	5-1/14	5-21/32	AN4C55	AN4C55A	5-3/16	5-21/32	AN5C55	AN5C55A	5-3/16	5-23/32
AN3C56	AN3C56A	5-3/8	5-25/32	AN4C56	AN4C56A	5-5/16	5-25/32	AN5C56	AN5C56A	5-5/16	5-27/32
AN3C57	AN3C57A	5-1/2	5-29/32	AN4C57	AN4C57A	5-7/16	5-29/32	AN5C57	AN5C57A	5-7/16	5-31/32
AN3C60	AN3C60A	5-5/8	6-1/32	AN4C60	AN4C60A	5-9/16	6-1/32	AN5C60	AN5C60A	5-9/16	6-3/32

	AN3	AN4	AN5
Washer	AN960C10	AN960C416	AN960C516
Nut	MS21044C3	MS21044C4	MS21044C5
Cotter Pin	AN381-2-6	AN381-2-8	AN380-2-8
Hole	1/16	1/16	1/16

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SKYBOLT AEROMOTIVE CORP.

Stainless
Undrilled - Drilled Shank

AN6C thru AN8C - AIRFRAME BOLTS

431 Stainless Steel (CRES).
Minimum Tensile Strength (Steel and CRES) - 125,000psi. See Chart

3/8-24 (.371-.374) **AN6C**				7/16-20 (.433-.437) **AN7C**				1/2-20 (.495-.499) **AN8C**			
Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Grip ±1/64	Length +1/32 -1/64
AN6C5	AN6C5A	1/16	45/64	AN7C5	AN7C5A	1/16	23/32				
AN6C6	AN6C6A	3/16	53/64	AN7C6	AN7C6A	3/16	27/32	AN8C6	AN8C6A	1/16	27/32
AN6C7	AN6C7A	5/16	61/64	AN7C7	AN7C7A	5/16	31/32	AN8C7	AN8C7A	3/16	31/32
AN6C10	AN6C10A	7/16	1-5/64	AN7C10	AN7C10A	7/16	1-1/32	AN8C10	AN8C10A	5/16	1-1/32
AN6C11	AN6C11A	9/16	1-13/64	AN7C11	AN7C11A	9-16	1-7/32	AN8C11	AN8C11A	7/16	1-7/32
AN6C12	AN6C12A	11/16	1-21/64	AN7C12	AN7C12A	11/16	1-11/32	AN8C12	AN8C12A	9/16	1-11/32
AN6C13	AN6C13A	13/16	1-29/64	AN7C13	AN7C13A	13/16	1-15/32	AN8C13	AN8C13A	11/16	1-15/32
AN6C14	AN6C14A	15/16	1-37/64	AN7C14	AN7C14A	15/16	1-19/32	AN8C14	AN8C14A	13/16	1-19/32
AN6C15	AN6C15A	1-1/16	1-45/64	AN7C15	AN7C15A	1-1/16	1-23/32	AN8C15	AN8C15A	15/16	1-23/32
AN6C16	AN6C16A	1-3/16	1-53/64	AN7C16	AN7C16A	1-3/16	1-27/32	AN8C16	AN8C16A	1-1/16	1-27/32
AN6C17	AN6C17A	1-5/16	1-61/64	AN7C17	AN7C17A	1-5/16	1-31/32	AN8C17	AN8C17A	1-3/16	1-31/32
AN6C20	AN6C20A	1-7/16	2-5/64	AN7C20	AN7C20A	1-7/16	2-3/32	AN8C20	AN8C20A	1-5/16	2-3/32
AN6C21	AN6C21A	1-9/16	2-13/64	AN7C21	AN7C21A	1-6/16	2-7/32	AN8C21	AN8C21A	1-7/16	2-7/32
AN6C22	AN6C22A	1-11/16	2-21/64	AN7C22	AN7C22A	1-11/16	2-11/32	AN8C22	AN8C22A	1-9/16	2-11/32
AN6C23	AN6C23A	1-13/16	2-29/64	AN7C23	AN7C23A	1-13/16	2-15/32	AN8C23	AN8C23A	1-11/16	2-15/32
AN6C24	AN6C24A	1-15/16	2-37/64	AN7C24	AN7C24A	1-15/16	2-16/32	AN8C24	AN8C24A	1-13/16	2-19/32
AN6C25	AN6C25A	2-1/16	2-45/64	AN7C25	AN7C25A	2-1/16	2-23/32	AN8C25	AN8C25A	1-15/16	2-23/32
AN6C26	AN6C26A	2-3/16	2-53/64	AN7C26	AN7C26A	2-3/16	2-27/32	AN8C26	AN8C26A	2-1/16	2-27/32
AN6C27	AN6C27A	2-5/16	2-61/64	AN7C27	AN7C27A	2-5/16	2-31/32	AN8C27	AN8C27A	2-3/16	2-31/32
AN6C30	AN6C30A	2-7/16	3-5/64	AN7C30	AN7C30A	2-7/16	3-3/32	AN8C30	AN8C30A	2-5/16	3-3/32
AN6C31	AN6C31A	2-9/16	3-13/64	AN7C31	AN7C31A	2-9/16	3-7/32	AN8C31	AN8C31A	2-7/16	3-7/32
AN6C32	AN6C32A	2-11/16	3-21/64	AN7C32	AN7C32A	2-11/16	3-11/32	AN8C32	AN8C32A	2-9/16	3-11/32
AN6C33	AN6C33A	2-13/16	3-29/64	AN7C33	AN7C33A	2-13/16	3-15/32	AN8C33	AN8C33A	2-11/16	3-15/32
AN6C34	AN6C34A	2-15/16	3-37/64	AN7C34	AN7C34A	2-15/16	3-19/32	AN8C34	AN8C34A	2-13/16	3-19/32
AN6C35	AN6C35A	3-1/16	3-45/64	AN7C35	AN7C35A	3-1/16	3-23/32	AN8C35	AN8C35A	2-15/16	3-23/32
AN6C36	AN6C36A	3-3/16	3-53/64	AN7C36	AN7C36A	3-3/16	3-27/32	AN8C36	AN8C36A	3-1/16	3-27/32
AN6C37	AN6C37A	3-5/16	3-61/64	AN7C37	AN7C37A	3-5/16	3-31/32	AN8C37	AN8C37A	3-3/16	3-31/32
AN6C40	AN6C40A	3-7/16	4-5/64	AN7C40	AN7C40A	3-7/16	4-3/32	AN8C40	AN8C40A	3-5/16	4-3/32
AN6C41	AN6C41A	3-6/16	4-13/64	AN7C41	AN7C41A	3-9/16	4-7/32	AN8C41	AN8C41A	3-7/16	4-7/32
AN6C42	AN6C42A	3-11/16	4-21/64	AN7C42	AN7C42A	3-11/16	4-11/32	AN8C42	AN8C42A	3-9/16	4-11/32
AN6C43	AN6C43A	3-13/16	4-29/64	AN7C43	AN7C43A	3-13/16	4-15/32	AN8C43	AN8C43A	3-11/16	4-15/32
AN6C44	AN6C44A	3-15/16	4-37/64	AN7C44	AN7C44A	3-15/16	4-19/32	AN8C44	AN8C44A	3-13/16	4-19/32
AN6C45	AN6C45A	4-1/16	4-45/64	AN7C45	AN7C45A	4-1/16	4-23/32	AN8C45	AN8C45A	3-15/16	4-23/32
AN6C46	AN6C46A	4-3/16	4-53/64	AN7C46	AN7C46A	4-3/16	4-27/32	AN8C46	AN8C46A	4-1/16	4-27/32
AN6C47	AN6C47A	4-5/16	4-61/64	AN7C47	AN7C47A	4-5/16	4-31/32	AN8C47	AN8C47A	4-3/16	4-31/32
AN6C50	AN6C50A	4-7/16	5-5/64	AN7C50	AN7C50A	4-7/16	5-3/32	AN8C50	AN8C50A	4-5/16	5-3/32
AN6C51	AN6C51A	4-9/16	5-13/64	AN7C51	AN7C51A	4-9/16	5-7/32	AN8C51	AN8C51A	4-7/16	5-7/32
AN6C52	AN6C52A	4-11/16	5-21/64	AN7C52	AN7C52A	4-11/16	5-11/32	AN8C52	AN8C52A	4-9/16	5-11/32
AN6C53	AN6C53A	4-13/16	5-19/64	AN7C53	AN7C53A	4-13/16	5-15/32	AN8C53	AN8C53A	4-11/16	5-15/32
AN6C54	AN6C54A	4-15/16	5-37/64	AN7C54	AN7C54A	4-15/16	5-19/32	AN8C54	AN8C54A	4-13/16	5-19/32
AN6C55	AN6C55A	5-1/16	5-45/64	AN7C55	AN7C55A	5-1/16	5-23/32	AN8C55	AN8C55A	4-15/16	5-23/32
AN6C56	AN6C56A	5-3/16	5-53/64	AN7C56	AN7C56A	5-3/16	5-27/32	AN8C56	AN8C56A	5-1/16	5-27/32
AN6C57	AN6C57A	5-5/16	5-61/64	AN7C57	AN7C57A	5-5/16	5-31/32	AN8C57	AN8C57A	5-3/16	5-31/32
AN6C60	AN6C60A	5-7/16	6-5/64	AN7C60	AN7C60A	5-7/16	6-3/32	AN8C60	AN8C60A	5-5/16	6-3/32

	AN6	AN7	AN8
Washer	AN960C616	AN960C716	AN960C816
Nut	MS21044C6	MS21044C7	MS21044C8
Cotter Pin	AN381-3-12	AN381-3-12	AN381-3-12
Hole	3/32	3/32	3/32

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AIRFRAME BOLTS AN3 Thru AN7

Undrilled shank bolts have the letter 'A' after dash number. Drilled head bolts have the letter 'H' after the AN number (See previous page).

RATED STRENGTH (POUNDS)*

AN Bolt	Thread	Tensile Steel	Tensile Aluminum	Yield Steel	Yield Aluminum	Single Shear Steel	Single Shear Aluminum
AN3	No. 10-32 NF -3A	2210	1100	1690	710	2125	990
AN4	1/4 -28 UNE-3A	4080	2030	3130	1310	3680	1715
AN5	5/16-24 UNF-3A	6500	3220	4980	2080	5750	2685
AN6	3/8 -24 UNF -3A	10100	5020	7740	3240	8280	3870
AN7	7/16-20 UNF -3A	13600	6750	10430	4350	11250	5250
AN8	1/2 -20 UNF -3A	18500	9/80	14190	5920	14700	6850
AN9	9/16-18 UNF -3A	23600	11700	18100	7550	18700	8700
AN10	5/8 -18 UNF-3A	30100	14900	23080	9610	23000	10750
AN12	3/4 -16 UNF -3A	44000	21800	33730	14100	33150	15500
AN14	7/8 -14 UNF-3A	60000	29800	46000	19200	45050	21050
AN16	1 -14 NF -3A	80700	40000	61870	25800	58900	27500
AN17	1 -12 UNF -3A	80700	40000	61870	25800	58900	27500
AN18	1-1/8 -12 UNF-3A	101800	50500	78050	32600	73750	34500
AN20	1-1/4 -12 UNF-3A	130200	64400	99820	41500	91050	42500

*All AN Bolts meet minimum Tensile Strength Values of 125,000 PSI
Commercial Grade 8 Bolts Have a Comparitive Strength of 150,000 PSI
Commercial Grade 5 Bolts Have a Comparitive Strength of 120,000 PSI
Dropping to 110.000 PSI for Diameters Greater Than 1-Inch
Commercial Grade 2 Bolts Have a Comparitive Strength of 70.000 PSI
Dropping to 60.000 PSI for Diameters Greater Than 3/4"

NF -National Fine Thread
UNF-Unified National Fine Thread

Safety Wire



1LB Dispensing Can

Part#	Dia	Length
MS20995C20	.020	937ft
MS20995C25	.025	599
MS20995C32	.032	366
MS20995C41	.041	223
016-COPPER*	.016	

*Break-a-way Wire

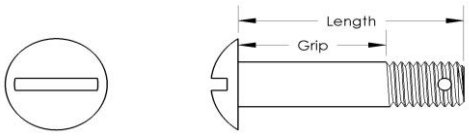
Safety Wire Tools

Tool	Type	Manufactured
SK197	9" Auto Return	USA
SK196	6" Auto return	USA
SK48UV51	10" Manual	Asia



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CLEVIS BOLT AN21 Thru AN36



	Rated Strength- Pounds						
AN#	Size	Shear	Tensile	AN#	Size	Shear	Tensile
AN21	6-40	1,060	510	**AN28**	1/2-20	14,700	9,250
AN22	8-32	1,050	760	**AN29**	9/16-18	18,700	11,800
AN23	10-32	2,125	1,105	**AN30**	5/8-18	23,000	15,050
AN24	1/4-28	3,680	2,040	**AN32**	3/4-16	33,150	22,000
AN25	5/16-24	5,750	3,250	**AN34**	7/8-14	45,050	30,000
AN26	3/8-24	8,280	5,050	**AN37**	1-12	58,900	40,350
AN27	7/16-20	11,250	6,800				

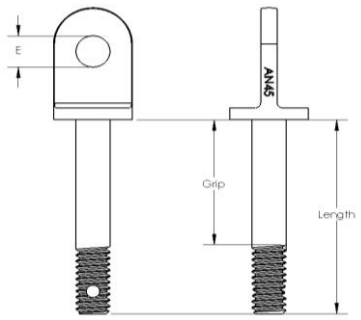
		AN23		**AN24**		**AN25**		**AN26**	
		(3/16) #10-32		1/4-28		5/16-24		3/8-24	
Grip	Length	Drilled	Undrilled	Drilled	Undrilled	Drilled	Undrilled	Drilled	Undrilled
3/16	17/32	AN23-8	AN23-8A	AN24-8	AN24-8A				
1/4	19/32	AN23-9	AN23-9A	AN24-9	AN24-9A	AN25-9	AN25-9A		
5/16	21/32	AN23-10	AN23-10A	AN24-10	AN24-10A	AN25-10	AN25-10A	AN26-10	AN26-10A
3/8	23/32	AN23-11	AN23-11A	AN24-11	AN24-11A	AN25-11	AN25-11A	AN26-11	AN26-11A
7/16	25/32	AN23-12	AN23-12A	AN24-12	AN24-12A	AN25-12	AN25-12A	AN26-12	AN26-12A
1/2	27/32	AN23-13	AN23-13A	AN24-13	AN24-13A	AN25-13	AN25-13A	AN26-13	AN26-13A
9/16	29/32	AN23-14	AN23-14A	AN24-14	AN24-14A	AN25-14	AN25-14A	AN26-14	AN26-14A
5/8	31/32	AN23-15	AN23-15A	AN24-15	AN24-15A	AN25-15	AN25-15A	AN26-15	AN26-15A
11/16	1-1/32	AN23-16	AN23-16A	AN24-16	AN24-16A	AN25-16	AN25-16A	AN26-16	AN26-16A
3/4	1-3/32	AN23-17	AN23-17A	AN24-17	AN24-17A	AN25-17	AN25-17A	AN26-17	AN26-17A
13/16	1-5/32	AN23-18	AN23-18A	AN24-18	AN24-18A	AN25-18	AN25-18A	AN26-18	AN26-18A
7/8	1-7/32	AN23-19	AN23-19A	AN24-19	AN24-19A	AN25-19	AN25-19A	AN26-19	AN26-19A
15/16	1-9/32	AN23-20	AN23-20A	AN24-20	AN24-20A	AN25-20	AN25-20A	AN26-20	AN26-20A
1	1-11/32	AN23-21	AN23-21A	AN24-21	AN24-21A	AN25-21	AN25-21A	AN26-21	AN26-21A
1-1/16	1-13/32	AN23-22	AN23-22A	AN24-22	AN24-22A	AN25-22	AN25-22A	AN26-22	AN26-22A
1-1/8	1-15/32	AN23-23	AN23-23A	AN24-23	AN24-23A	AN25-23	AN25-23A	AN26-23	AN26-23A
1-3/16	1-17/32	AN23-24	AN23-24A	AN24-24	AN24-24A	AN25-24	AN25-24A	AN26-24	AN26-24A
1-1/4	1-19/32	AN23-25	AN23-25A	AN24-25	AN24-25A	AN25-25	AN25-25A	AN26-25	AN26-25A
1-5/16	1-21/32	AN23-26	AN23-26A	AN24-26	AN24-26A	AN25-26	AN25-26A	AN26-26	AN26-26A
1-3/8	1-23/32	AN23-27	AN23-27A	AN24-27	AN24-27A	AN25-27	AN25-27A	AN26-27	AN26-27A
1-7/16	1-25/32	AN23-28	AN23-28A	AN24-28	AN24-28A	AN25-28	AN25-28A	AN26-28	AN26-28A
1-1/2	1-27/32	AN23-29	AN23-29A	AN24-29	AN24-29A	AN25-29	AN25-29A	AN26-29	AN26-29A
1-9/16	1-29/32	AN23-30	AN23-30A	AN24-30	AN24-30A	AN25-30	AN25-30A	AN26-30	AN26-30A
1-5/8	1-31/32	AN23-31	AN23-31A	AN24-31	AN24-31A	AN25-31	AN25-31A	AN26-31	AN26-31A
1-11/16	2-1/32	AN23-32	AN23-32A	AN24-32	AN24-32A	AN25-32	AN25-32A	AN26-32	AN26-32A
1-13/16	2-5/32	AN23-34	AN23-34A	AN24-34	AN24-34A	AN25-34	AN25-34A	AN26-34	AN26-34A
1-15/16	2-9/32	AN23-36	AN23-36A	AN24-36	AN24-36A	AN25-36	AN25-36A	AN26-36	AN26-36A
2-1/16	2-13/32	AN23-38	AN23-38A	AN24-38	AN24-38A	AN25-38	AN25-38A	AN26-38	AN26-38A
2-3/16	2-17/32	AN23-40	AN23-40A	AN24-40	AN24-40A	AN25-40	AN25-40A	AN26-40	AN26-40A

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EYEBOLT AN42 Thru AN49

AN#	Size	E Min	E Max	Pin Size	Rated Tensile of eye	Yield Strength of eye
AN42B	10-32	.190	.192	3/16	1,150 lbs	880 lbs
AN43B	1/4-28	.190	.192	3/16	2,450	1,880
AN44	5/16-24	.250	.253	1/4	3,910	3,000
AN45	5/16-24	.313	.316	5/16	5,290	4,055
AN46	3/8-24	.375	.378	3/8	7,015	5,375
AN47	7/16-20	.375	.378	3/8	9,200	7,055
AN48	1/2-20	.375	.441	7/16	14,375	11,020
AN49	9/16-18	.500	.503	1/2	20,125	15,430

Refer to AN3-AN9 Chart for length Data and Dash Numbers.



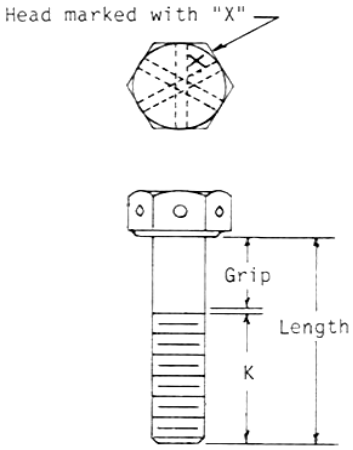
		(3/16) #1032 (.186-.189) **AN42B**		1/4-28 (.246-.249) **AN43B**		5/16-24 (.309-.312) **AN44**		3/8-24 (.371-.374) **AN46**	
Grip ±1/64	Length +1/32 -1/64	Dash# Drilled	Dash# UnDrilled	Dash# Drilled	Dash# UnDrilled	Dash# Drilled	Dash# UnDrilled	Dash# Drilled	Dash# UnDrilled
1/16	15/32	AN42B3	AN42B3A	AN43B3	AN43B3A	AN44-3	AN44-3A	AN46-3	AN46-3A
1/8	17/32	AN42B4	AN42B4A	AN43B4	AN43B4A	AN44-4	AN44-4A	AN46-4	AN46-4A
1/4	21/32	AN42B5	AN42B5A	AN43B5	AN43B5A	AN44-5	AN44-5A	AN46-5	AN46-5A
3/8	25/32	AN42B6	AN42B6A	AN43B6	AN43B6A	AN44-6	AN44-6A	AN46-6	AN46-6A
1/2	29/32	AN42B7	AN42B7A	AN43B7	AN43B7A	AN44-7	AN44-7A	AN46-7	AN46-7A
5/8	1-1/32	AN42B10	AN42B10A	AN43B10	AN43B10A	AN44-10	AN44-10A	AN46-10	AN46-10A
3/4	1-5/32	AN42B11	AN42B11A	AN43B11	AN43B11A	AN44-11	AN44-11A	AN46-11	AN46-11A
7/8	1-9/32	AN42B12	AN42B12A	AN43B12	AN43B12A	AN44-12	AN44-12A	AN46-12	AN46-12A
1	1-13/32	AN42B13	AN42B13A	AN43B13	AN43B13A	AN44-13	AN44-13A	AN46-13	AN46-13A
1-1/8	1-17/32	AN42B14	AN42B14A	AN43B14	AN43B14A	AN44-14	AN44-14A	AN46-14	AN46-14A
1-1/4	1-21/32	AN42B15	AN42B15A	AN43B15	AN43B15A	AN44-15	AN44-15A	AN46-15	AN46-15A
1-3/8	1-25/32	AN42B16	AN42B16A	AN43B16	AN43B16A	AN44-16	AN44-16A	AN46-16	AN46-16A
1-1/2	1-29/32	AN42B17	AN42B17A	AN43B17	AN43B17A	AN44-17	AN44-17A	AN46-17	AN46-17A
1-5/8	2-1/32	AN42B20	AN42B20A	AN43B20	AN43B20A	AN44-20	AN44-20A	AN46-20	AN46-20A
1-3/4	2-5/32	AN42B21	AN42B21A	AN43B21	AN43B21A	AN44-21	AN44-21A	AN46-21	AN46-21A
1-7/8	2-9/32	AN42B22	AN42B22A	AN43B22	AN43B22A	AN44-22	AN44-22A	AN46-22	AN46-22A
2	2-13/32	AN42B23	AN42B23A	AN43B23	AN43B23A	AN44-23	AN44-23A	AN46-23	AN46-23A
2-1/8	2-17/32	AN42B24	AN42B24A	AN43B24	AN43B24A	AN44-24	AN44-24A	AN46-24	AN46-24A
2-1/4	2-21/32	AN42B25	AN42B25A	AN43B25	AN43B25A	AN44-25	AN44-25A	AN46-25	AN46-25A
2-3/8	2-25/32	AN42B26	AN42B26A	AN43B26	AN43B26A	AN44-26	AN44-26A	AN46-26	AN46-26A
2-1/2	2-29/32	AN42B27	AN42B27A	AN43B27	AN43B27A	AN44-27	AN44-27A	AN46-27	AN46-27A
2-5/8	3-1/32	AN42B30	AN42B30A	AN43B30	AN43B30A	AN44-30	AN44-30A	AN46-30	AN46-30A
2-3/4	3-5/32	AN42B31	AN42B31A	AN43B31	AN43B31A	AN44-31	AN44-31A	AN46-31	AN46-31A
2-7/8	3-9/32	AN42B32	AN42B32A	AN43B32	AN43B32A	AN44-32	AN44-32A	AN46-32	AN46-32A
3	3-13/32	AN42B33	AN42B33A	AN43B33	AN43B33A	AN44-33	AN44-33A	AN46-33	AN46-33A
3-1/8	3-17/32	AN42B34	AN42B34A	AN43B34	AN43B34A	AN44-34	AN44-34A	AN46-34	AN46-34A
3-1/4	3-21/32	AN42B35	AN42B35A	AN43B35	AN43B35A	AN44-35	AN44-35A	AN46-35	AN46-35A
3-3/8	3-25/32	AN42B36	AN42B36A	AN43B36	AN43B36A	AN44-36	AN44-36A	AN46-36	AN46-36A
3-1/2	3-29/32	AN42B37	AN42B37A	AN43B37	AN43B37A	AN44-37	AN44-37A	AN46-37	AN46-37A
3-5/8	4-1/32	AN42B40	AN42B40A	AN43B40	AN43B40A	AN44-40	AN44-40A	AN46-40	AN46-40A

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DRILLED HEAD BOLTS
AN73 Thru AN81

Superceded by MS20073 (Fine Thread) or MS20074 (Course Thread)

MS20073 and MS 20074 parts and AN73 thru AN81 parts of like thread and grip are interchanganable. Rated strengths are similar to AN3 thru AN20 with minium tensile of 125K.



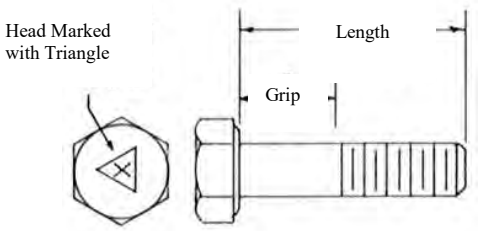
Dash No.	AN73 MS20073-03 10-32 Grip +/-.016	AN73 MS20073-03 10-32 Length +.031 -.016	AN73 MS20073-03 10-32 K Ref (MIN)	AN73A MS20073-05 10-24 Grip +/-.016	AN73A MS20073-05 10-24 Length +.031 -.016	AN73A MS20073-05 10-24 K Ref (MIN)	AN74 MS20073-04 1/4-28 Grip +/-.016	AN74 MS20073-04 1/4-28 Length +.031 -.016	AN74 MS20073-04 1/4-28 K Ref (MIN)	AN74A MS20074-04 1/4-20 Grip +/-.016	AN74A MS20074-04 1/4-20 Length +.031 -.016	AN74A MS20074-04 1/4-20 K Ref (MIN)
02	.062	.344	.250									
03	.062	.469	.375									
04	.062	.594	.500	.062	.609	.515						
05	.125	.656	.499	.125	.672	.515	.062	.734	.640			
06	.250	.781	.499	.250	.797	.515	.125	.797	.640			
07	.375	.906	.499	.375	.922	.515	.250	.922	.640			
10	.500	1.031	.499	.500	1.047	.515	.375	1.047	.640			
11	.625	1.156	.499	.625	1.172	.515	.500	1.172	.640			
12	.750	1.281	.499	.750	1.297	.515	.625	1.297	.640			
13	.875	1.406	.499	.875	1.422	.515	.750	1.422	.640			
14	1.000	1.531	.499	1.000	1.547	.515	.875	1.547	.640			
15	1.125	1.656	.499	1.125	1.672	.515	1.000	1.672	.640			
16	1.250	1.781	.499	1.250	1.797	.515	1.125	1.797	.640			
17	1.375	1.906	.499	1.375	1.922	.515	1.250	1.922	.640			
20	1.500	2.031	.499	1.500	2.047	.515	1.375	2.047	.640			
21	1.625	2.156	.499	1.625	2.172	.515	1.500	2.172	.640			
22	1.750	2.281	.499	1.750	2.297	.515	1.625	2.297	.640			
23	1.875	2.406	.499	1.875	2.422	.515	1.750	2.422	.640			
24	2.000	2.531	.499	2.000	2.547	.515	1.875	2.547	.640			
25	2.125	2.656	.499	2.125	2.672	.515	2.000	2.672	.640			
26	2.250	2.781	.499	2.250	2.797	.515	2.125	2.797	.640			
27	2.250	2.906	.499	2.375	2.922	.515	2.250	2.922	.640			
30	2.500	3.031	.499	2.500	3.049	.515	2.375	3.049	.640			

Grip	Length	AN73 MS20073-03 10-32	AN74 MS20073-04 1/4-28	Grip	Length	AN75 MS20073-05 5/16-24	Grip	Length	AN76 MS20073-06 3/8-24
.062	.344	MS20073-03-02	MS20073-04-02						
.062	.469	MS20073-03-03	MS20073-04-03						
.062	.594	MS20073-03-04	MS20073-04-04	.062	.609	MS20073-05-04			
.125	.656	MS20073-03-05	MS20073-04-05	.125	.672	MS20073-05-05	.062	.734	MS20073-06-05
.250	.781	MS20073-03-06	MS20073-04-06	.250	.797	MS20073-05-06	.125	.797	MS20073-06-06
.375	.906	MS20073-03-07	MS20073-04-07	.375	.922	MS20073-05-07	.250	.922	MS20073-06-07
.500	1.031	MS20073-03-10	MS20073-04-10	.500	1.047	MS20073-05-10	.375	1.047	MS20073-06-10
.625	1.156	MS20073-03-11	MS20073-04-11	.625	1.172	MS20073-05-11	.500	1.172	MS20073-06-11
.750	1.281	MS20073-03-12	MS20073-04-12	.750	1.297	MS20073-05-12	.625	1.297	MS20073-06-12
.875	1.406	MS20073-03-13	MS20073-04-13	.875	1.422	MS20073-05-13	.750	1.422	MS20073-06-13
1.000	1.531	MS20073-03-14	MS20073-04-14	1.000	1.547	MS20073-05-14	.875	1.547	MS20073-06-14
1.125	1.656	MS20073-03-15	MS20073-04-15	1.125	1.672	MS20073-05-15	1.000	1.672	MS20073-06-15
1.250	1.781	MS20073-03-16	MS20073-04-16	1.250	1.797	MS20073-05-16	1.125	1.797	MS20073-06-16
1.375	1.906	MS20073-03-17	MS20073-04-17	1.375	1.922	MS20073-05-17	1.250	1.922	MS20073-06-17
1.500	2.031	MS20073-03-20	MS20073-04-20	1.500	2.047	MS20073-05-20	1.375	2.047	MS20073-06-20
1.625	2.156	MS20073-03-21	MS20073-04-21	1.625	2.172	MS20073-05-21	1.500	2.172	MS20073-06-21
1.750	2.281	MS20073-03-22	MS20073-04-22	1.750	2.297	MS20073-05-22	1.625	2.297	MS20073-06-22
1.875	2.406	MS20073-03-23	MS20073-04-23	1.875	2.422	MS20073-05-23	1.750	2.422	MS20073-06-23
2.000	2.531	MS20073-03-24	MS20073-04-24	2.000	2.547	MS20073-05-24	1.875	2.547	MS20073-06-24
2.125	2.656	MS20073-03-25	MS20073-04-25	2.125	2.672	MS20073-05-25	2.000	2.672	MS20073-06-25
2.250	2.781	MS20073-03-26	MS20073-04-26	2.250	2.797	MS20073-05-26	2.125	2.797	MS20073-06-26
2.275	2.906	MS20073-03-27	MS20073-04-27	2.375	2.922	MS20073-05-27	2.250	2.922	MS20073-06-27
2.500	3.031	MS20073-03-30	MS20073-04-30	2.500	3.049	MS20073-05-30	2.375	3.049	MS20073-06-30

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CLOSE TOLERANCE BOLTS AN173 thru AN186

MIL-B-6812 Specifications Similar to AN3-AN8 Bolts except machined after plating to closer tolerance. Coated as per MIL-C-11796 or -16173. Same strength values as AN3- AN8 bolts. Available with drilled shank and/head.



Example Part#s

AN176-10	3/8-24 x 1-5/64, Steel, Drilled Shank, Undrilled Head
AN176C10	3/8-24 x 1-5/64, CRES, Drilled Shank, Undrilled Head
AN176DD10A	3/8-24 x 1-5/64, Alum, UnDrilled Shank, Undrilled Head
AN176DDH10	3/8-24 x 1-5/64, Alum, Drilled Shank, Drilled Head

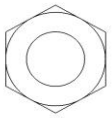
AN173 3/16-32				AN174 1/4-28				AN175 5/16-24			
Grip	Length			Grip	Length			Grip	Length		
+/-1/64	+1/32 -1/64	Drilled	Undrilled	+/-1/64	+1/32 -1/64	Drilled	Undrilled	+/-1/64	+1/32 -1/64	Drilled	Undrilled
1/16	15/32	AN173-3	AN173-3A	1/16	15/32	AN174-3	AN174-3A				
1/8	17/32	AN173-4	AN173-4A	1/16	17/32	AN174-4	AN174-4A	1/16	19/32	AN175-4	AN175-4A
1/4	21/32	AN173-5	AN173-5A	3/16	21/32	AN174-5	AN174-5A	3/16	23/32	AN175-5	AN175-5A
3/8	25/32	AN173-6	AN173-6A	5/16	25/32	AN174-6	AN174-6A	5/16	27/32	AN175-6	AN175-6A
1/2	29/32	AN173-7	AN173-7A	7/16	29/32	AN174-7	AN174-7A	7/16	31/32	AN175-7	AN175-7A
5/8	1-1/32	AN173-10	AN173-10A	9/16	1-1/32	AN174-10	AN174-10A	9/16	1-3/32	AN175-10	AN175-10A
3/4	1-5/32	AN173-11	AN173-11A	11/16	1-5/32	AN174-11	AN174-11A	11/16	1-7/32	AN175-11	AN175-11A
7/8	1-9/32	AN173-12	AN173-12A	13/16	1-9/32	AN174-12	AN174-12A	13/16	1-11/32	AN175-12	AN175-12A
1	1-13/32	AN173-13	AN173-13A	15/16	1-13/32	AN174-13	AN174-13A	15/16	1-15/32	AN175-13	AN175-13A
1-1/8	1-17/32	AN173-14	AN173-14A	1-1/16	1-17/32	AN174-14	AN174-14A	1-1/16	1-19/32	AN175-14	AN175-14A
1-1/4	1-21/32	AN173-15	AN173-15A	1-3/16	1-21/32	AN174-15	AN174-15A	1-3/16	1-23/32	AN175-15	AN175-15A
1-3/8	1-25/32	AN173-16	AN173-16A	1-5/16	1-25/32	AN174-16	AN174-16A	1-5/16	1-27/32	AN175-16	AN175-16A
1-1/2	1-29/32	AN173-17	AN173-17A	1-7/16	1-29/32	AN174-17	AN174-17A	1-7/16	1-31/32	AN175-17	AN175-17A
1-5/8	2-1/32	AN173-20	AN173-20A	1-9/16	2-1/32	AN174-20	AN174-20A	1-9/16	2-3/32	AN175-20	AN175-20A
1-3/4	2-5/32	AN173-21	AN173-21A	1-11/16	2-5/32	AN174-21	AN174-21A	1-11/16	2-7/32	AN175-21	AN175-21A
1-7/8	2-9/32	AN173-22	AN173-22A	1-13/16	2-9/32	AN174-22	AN174-22A	1-13/16	2-11/32	AN175-22	AN175-22A
2	2-13/32	AN173-23	AN173-23A	1-15/16	2-13/32	AN174-23	AN174-23A	1-15/16	2-15/32	AN175-23	AN175-23A
2-1/8	2-17/32	AN173-24	AN173-24A	2-1/16	2-17/32	AN174-24	AN174-24A	2-1/16	2-19/32	AN175-24	AN175-24A
2-1/4	2-21/32	AN173-25	AN173-25A	2-3/16	2-21/32	AN174-25	AN174-25A	2-3/16	2-23/32	AN175-25	AN175-25A
2-3/8	2-25/32	AN173-26	AN173-26A	2-5/16	2-25/32	AN174-26	AN174-26A	2-5/16	2-27/32	AN175-26	AN175-26A
2-1/2	2-29/32	AN173-27	AN173-27A	2-7/16	2-29/32	AN174-27	AN174-27A	2-7/16	2-31/32	AN175-27	AN175-27A
2-5/8	3-1/32	AN173-30	AN173-30A	2-9/16	3-1/32	AN174-30	AN174-30A	2-9/16	3-3/32	AN175-30	AN175-30A

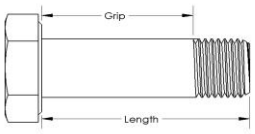
AN176 3/8-24				AN177 7/16-20				AN178 1/2-20			
Grip	Length			Grip	Length			Grip	Length		
+/-1/64	+1/32 -1/64	Drilled	Undrilled	+/-1/64	+1/32 -1/64	Drilled	Undrilled	+/-1/64	+1/32 -1/64	Drilled	Undrilled
1/16	45/64	AN176-5	AN176-5A	1/16	23/32	AN177-5	AN177-5A				
3/16	53/64	AN176-6	AN176-6A	3/16	27/32	AN177-6	AN177-6A	1/16	27/32	AN178-6	AN178-6A
5/16	61/64	AN176-7	AN176-7A	5/16	31/32	AN177-7	AN177-7A	3/16	31/32	AN178-7	AN178-7A
7/16	1-5/64	AN176-10	AN176-10A	7/16	1-3/32	AN177-10	AN177-10A	5/16	1-3/32	AN178-10	AN178-10A
9/16	1-13/64	AN176-11	AN176-11A	9/16	1-7/32	AN177-11	AN177-11A	7/16	1-7/32	AN178-11	AN178-11A
11/16	1-21/64	AN176-12	AN176-12A	11/16	1-11/32	AN177-12	AN177-12A	9/16	1-11/32	AN178-12	AN178-12A
13/16	1-29/64	AN176-13	AN176-13A	13/16	1-15/32	AN177-13	AN177-13A	11/16	1-15/32	AN178-13	AN178-13A
16/16	1-37/64	AN176-14	AN176-14A	16/16	1-19/32	AN177-14	AN177-14A	13/16	1-19/32	AN178-14	AN178-14A
1-1/16	1-45/64	AN176-15	AN176-15A	1-1/16	1-23/32	AN177-15	AN177-15A	16/16	1-23/32	AN178-15	AN178-15A
1-3/16	1-53/64	AN176-16	AN176-16A	1-3/16	1-27/32	AN177-16	AN177-16A	1-1/16	1-27/32	AN178-16	AN178-16A
1-5/16	1-61/64	AN176-17	AN176-17A	1-5/16	1-31/32	AN177-17	AN177-17A	1-3/16	1-31/32	AN178-17	AN178-17A
1-7/16	2-5/64	AN176-20	AN176-20A	1-7/16	2-3/32	AN177-20	AN177-20A	1-5/16	2-3/32	AN178-20	AN178-20A
1-9/16	2-13/64	AN176-21	AN176-21A	1-9/16	2-7/32	AN177-21	AN177-21A	1-7/16	2-7/32	AN178-21	AN178-21A
1-11/16	2-21/64	AN176-22	AN176-22A	1-11/16	2-11/32	AN177-22	AN177-22A	1-9/16	2-11/32	AN178-22	AN178-22A
1-13/16	2-29/64	AN176-23	AN176-23A	1-13/16	2-15/32	AN177-23	AN177-23A	1-11/16	2-15/32	AN178-23	AN178-23A
1-15/16	2-37/64	AN176-24	AN176-24A	1-15/16	2-19/32	AN177-24	AN177-24A	1-13/16	2-19/32	AN178-24	AN178-24A
2-1/16	2-45/64	AN176-25	AN176-25A	2-1/16	2-23/32	AN177-25	AN177-25A	1-15/16	2-23/32	AN178-25	AN178-25A
2-3/16	2-53/64	AN176-26	AN176-26A	2-3/16	2-27/32	AN177-26	AN177-26A	2-1/16	2-27/32	AN178-26	AN178-26A
2-5/16	2-61/64	AN176-27	AN176-27A	2-5/16	2-31/32	AN177-27	AN177-27A	2-3/16	2-31/32	AN178-27	AN178-27A
2-7/16	3-5/64	AN176-30	AN176-30A	2-7/16	3-3/32	AN177-30	AN177-30A	2-5/16	3-3/32	AN178-30	AN178-30A

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NAS 1100 Series High Strength Bolts

NAS1103 thru NAS1120 Bolt - Shear, Modified Hexagon Head
Short Thread Alloy Steel Heat Treated Per MIL-H-6875
160,000 - 180,000 psi Tensile Strength 95,000 psi Minimum Shear
Cadmium Plated per QQ-P-416, Type II, Class 2.
Example Part#s: NAS1104-9D 1/4-28 x .878 Drilled Shank
NAS1106-27 3/8-24 x 2.079 Undrilled Shank





		Length												
	Thread	#1032	1/4-28	5/16-24	3/8-24	7/16-20	1/2-20	9/16-18	5/8-18	3/4-16	7/8-14	1-12	1-1/8-12	1-1/4-12
Dash #	Grip	**NAS 1103**	**NAS 1104**	**NAS 1105**	**NAS 1106**	**NAS 1107**	**NAS 1108**	**NAS 1109**	**NAS 1110**	**NAS 1112**	**NAS 1114**	**NAS 1116**	**NAS 1118**	**NAS 1120**
1	0.620	0.338	0.378	0.437	0.453	0.515	0.515	0.573	0.605	0.634	0.714	0.832	0.926	1.020
2	0.125	0.401	0.441	0.500	0.516	0.578	0.578	0.636	0.668	0.697	0.777	0.895	0.989	1.083
3	0.188	0.464	0.504	0.563	0.579	0.641	0.641	0.699	0.731	0.760	0.840	0.958	1.052	1.146
4	0.250	0.526	0.566	0.625	0.641	0.703	0.703	0.761	0.793	0.822	0.902	1.020	1.114	1.208
5	0.312	0.588	0.628	0.687	0.703	0.765	0.765	0.823	0.855	0.884	0.964	1.082	1.176	1.270
6	0.375	0.651	0.691	0.750	0.766	0.828	0.828	0.886	0.918	0.947	1.027	1.145	1.239	1.333
7	0.438	0.714	0.754	0.813	0.829	0.891	0.891	0.949	0.981	1.010	1.090	1.208	1.302	1.396
8	0.500	0.776	0.816	0.875	0.891	0.953	0.953	1.011	1.043	1.072	1.152	1.270	1.364	1.458
9	0.562	0.838	0.878	0.937	0.953	1.015	1.015	1.073	1.105	1.134	1.214	1.332	1.426	1.520
10	0.625	0.901	0.941	1.000	1.016	1.078	1.078	1.136	1.168	1.197	1.277	1.395	1.489	1.583
11	0.688	0.964	1.004	1.063	1.079	1.141	1.141	1.199	1.231	1.260	1.340	1.458	1.552	1.646
12	0.750	1.026	1.066	1.125	1.141	1.203	1.203	1.261	1.291	1.322	1.402	1.520	1.614	1.708
13	8.120	1.088	1.128	1.187	1.203	1.265	1.265	1.323	1.355	1.384	1.464	1.582	1.676	1.770
14	0.875	1.151	1.191	1.250	1.266	1.328	1.328	1.386	1.418	1.447	1.527	1.645	1.739	1.833
15	0.938	1.214	1.254	1.313	1.329	1.391	1.391	1.449	1.481	1.510	1.590	1.708	1.802	1.896
16	1.000	1.276	1.316	1.375	1.391	1.453	1.453	1.511	1.543	1.572	1.652	1.770	1.864	1.958
17	1.062	1.338	1.378	1.437	1.453	1.515	1.515	1.573	1.605	1.634	1.714	1.832	1.926	2.020
18	1.125	1.401	1.441	1.500	1.516	1.578	1.578	1.636	1.668	1.697	1.777	1.895	1.989	2.083
19	1.188	1.464	1.504	1.563	1.579	1.641	1.641	1.699	1.731	1.760	1.840	1.958	2.052	2.146
20	1.250	1.526	1.566	1.625	1.641	1.703	1.703	1.761	1.793	1.822	1.902	2.020	2.114	2.208
21	1.312	1.588	1.628	1.687	1.703	1.765	1.765	1.823	1.855	1.884	1.964	2.082	2.176	2.270
22	1.375	1.651	1.691	1.750	1.766	1.828	1.828	1.886	1.918	1.947	2.027	2.145	2.239	2.333
23	1.438	1.714	1.754	1.813	1.829	1.891	1.891	1.949	1.981	2.010	2.090	2.208	2.302	2.396
24	1.500	1.776	1.816	1.875	1.891	1.953	1.953	2.011	2.043	2.072	2.152	2.270	2.364	2.458
25	1.562	1.838	1.878	1.937	1.953	2.015	2.015	2.073	2.105	2.134	2.214	2.332	2.426	2.520
26	1.625	1.901	1.941	2.000	2.016	2.078	2.078	2.136	2.168	2.197	2.277	2.395	2.489	2.583
27	1.688	1.964	2.004	2.063	2.079	2.141	2.141	2.199	2.231	2.260	2.340	2.458	2.552	2.646
28	1.750	2.026	2.066	2.125	2.141	2.203	2.203	2.261	2.291	2.322	2.402	2.520	2.614	2.708
29	1.812	2.088	2.128	2.187	2.203	2.265	2.265	2.323	2.355	2.384	2.464	2.582	2.676	2.770
30	1.875	2.151	2.191	2.250	2.266	2.328	2.328	2.386	2.418	2.447	2.527	2.645	2.739	2.833
31	1.938	2.214	2.254	2.313	2.329	2.329	2.391	2.449	2.481	2.510	2.590	2.708	2.802	2.896
32	2.000	2.276	2.316	2.375	2.391	2.453	2.453	2.511	2.543	2.572	2.652	2.770	2.864	2.958
34	2.125	2.401	2.441	2.500	2.516	2.578	2.578	2.636	2.668	2.697	2.777	2.895	2.989	3.083
36	2.250	2.526	2.566	2.625	2.641	2.703	2.703	2.761	2.793	2.822	2.902	3.020	3.114	3.208
38	2.375	2.651	2.691	2.750	2.766	2.828	2.828	2.886	2.918	2.947	3.027	3.145	3.239	3.333
40	2.500	2.776	2.816	2.875	2.891	2.953	2.953	3.011	3.043	3.072	3.152	3.270	3.364	3.458
42	2.625	2.901	2.941	3.000	3.016	3.078	3.078	3.136	3.168	3.197	3.277	3.395	3.489	3.583
44	2.750	3.026	3.066	3.125	3.141	3.203	3.203	3.261	3.291	3.322	3.402	3.520	3.614	3.708
46	2.875	3.151	3.191	3.250	3.266	3.328	3.328	3.386	3.418	3.447	3.527	3.645	3.739	3.833
48	3.000	3.276	3.316	3.375	3.391	3.453	3.453	3.511	3.543	3.572	3.652	3.770	3.864	3.958
50	3.125	3.401	3.441	3.500	3.516	3.578	3.578	3.636	3.668	3.697	3.777	3.895	3.989	4.083
52	3.250	3.526	3.566	3.625	3.641	3.703	3.703	3.761	3.793	3.822	3.902	4.020	4.114	4.208
54	3.375	3.651	3.691	3.750	3.766	3.828	3.828	3.886	3.918	3.947	4.027	4.145	4.239	4.333
56	3.500	3.776	3.816	3.875	3.891	3.953	3.953	4.011	4.043	4.072	4.152	4.270	4.364	4.458
58	3.625	3.901	3.941	4.000	4.016	4.078	4.078	4.136	4.168	4.197	4.277	4.395	4.489	4.583
60	3.750	4.026	4.066	4.125	4.141	4.203	4.203	4.261	4.291	4.322	4.402	4.520	4.614	4.708
62	3.875	4.151	4.191	4.250	4.266	4.328	4.328	4.386	4.418	4.447	4.527	4.645	4.739	4.833
64	4.000	4.276	4.316	4.375	4.391	4.453	4.453	4.511	4.543	4.572	4.652	4.770	4.864	4.958
66	4.125	4.401	4.441	4.500	4.516	4.578	4.578	4.636	4.668	4.697	4.777	4.895	4.989	4.083
68	4.250	4.526	4.566	4.625	4.641	4.703	4.703	4.761	4.793	4.822	4.902	5.020	5.114	5.208
70	4.375	4.651	4.691	4.750	4.766	4.828	4.828	4.886	4.918	4.947	5.027	5.145	5.239	5.333
72	4.500	4.776	4.816	4.875	4.891	4.953	4.953	5.011	5.043	5.072	5.152	5.270	5.364	5.458
74	4.625	4.901	4.941	5.000	5.016	5.078	5.078	5.136	5.168	5.197	5.277	5.395	5.489	5.583
76	4.750	5.026	5.066	5.125	5.141	5.203	5.203	5.261	5.291	5.322	5.402	5.520	5.614	5.708
78	4.875	5.151	5.191	5.250	5.266	5.328	5.328	5.386	5.418	5.447	5.527	5.645	5.739	5.833
80	5.000	5.276	5.316	5.375	5.391	5.453	5.453	5.511	5.543	5.572	5.652	5.770	5.864	5.958
82	5.125	5.401	5.441	5.500	5.516	5.578	5.578	5.636	5.668	5.697	5.777	5.895	5.989	6.083
84	5.250	5.526	5.566	5.625	5.641	5.703	5.703	5.761	5.793	5.822	5.902	6.020	6.114	6.208
86	5.375	5.651	5.691	5.750	5.766	5.828	5.828	5.886	5.918	5.947	6.027	6.145	6.239	6.333
88	5.500	5.776	5.816	5.875	5.891	5.953	5.953	6.011	6.043	6.072	6.152	6.270	6.364	6.458
90	5.625	5.901	5.941	6.000	6.016	6.078	6.078	6.136	6.168	6.197	6.277	6.395	6.489	6.583
92	5.750	6.026	6.066	6.125	6.141	6.203	6.203	6.261	6.291	6.322	6.402	6.520	6.614	6.708
94	5.875	6.151	6.191	6.250	6.266	6.328	6.328	6.386	6.418	6.447	6.527	6.645	6.739	6.833
96	6.000	6.276	6.316	6.375	6.391	6.453	6.453	6.511	6.543	6.572	6.652	6.770	6.864	6.958

Notes: NAS1100 Series Bolts are shear bolts because of the short thread design. Use MS21042, MS21245, or MS17826 Shear Nuts.
For tensile applications use NAS1300 Series Bolts.

Skybolt Stocks limited NAS Bolts - Call - We will source

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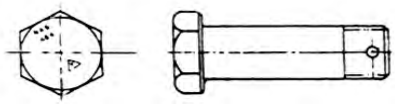
MS-NAS High Strength Bolts -continued-

(Special Order Only)

NAS464 BOLT - SHEAR CLOSE TOLERANCE ALLOY STEEL

160,000 PSI Minimum Tensile Strength

NAS464-3	**NAS464-4**	**NAS464-5**	**NAS464-5L**	**NAS464-6**	**NAS464-6L**
#10-32	1/4-28	5/16-24	5/16-24	3/8-24	3/8-24
NAS464-7	**NAS464-7L**	**NAS464-8**	**NAS464-8L**	Thru	**NAS464-16L**
7/16-20	7/16-20 Long Thread	1/2-20	1/2-20 Long Thread		1-12



Example Part#s

NAS464-3-11 #10-32 x 1-1/32, Unplated Shank, Drilled Shank

NAS464P3-11 #10-32 x 1-1/32, Plated Shank, Drilled Shank

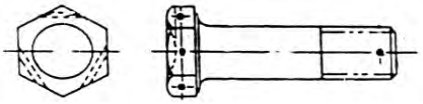
NAS464-6L16 3/8-24 x 1-7/16, Long Thread, Unplated, Drilled Shank

NAS464P6LA29 3/8-24 x 2-1/4, Long Thread, Plated Shank, Undrilled Shank

NAS1303 THRU NAS1320 BOLT - SHEAR, HEXAGON HEAD, LONG THREAD Alloy Steel

160,000 PSI Minimum Tensile Strength

NAS1303	**NAS1304**	**NAS1305**	**NAS1306**	**NAS1307**	**NAS1308**
#10-32	1/4-24	5/16-24	3/8-24	7/16-20	1/2-20
NAS1309	**NAS1310**	**NAS1312**	**NAS1314**	Thru	**NAS1320**
9/16-18	5/8-18	3/4-16	7/8-14		1-1/4-12



Example Part#s

NAS1308-10 1/2-20 X 1.360, Undrilled Shank, Undrilled Head

NAS1310-27D 5/8-18 x 2.590, Drilled Shank, Undrilled Head

NAS1310-96DH 5/8-18 x 6.902, Drilled Shank, Drilled Head

NOTE: NAS1103/NAS1303 Series Bolts have the same grip values per dash#.

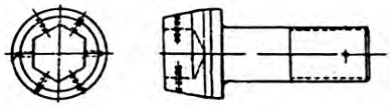
NAS1303 have longer threads, hence longer length per dash#.

INTERNAL WRENCHING BOLTS

MS20004 THRU MS20024 BOLT- INTERNAL WRENCHING ALLOY STEEL

160,000 PSI Minimum Tensile Strength, 96,000 PSI Minimum Shear Strength

MS20004	**MS20005**	**MS20006**	**MS20007**	**MS20008**	**MS20009**
1/4-28	5/16-24	3/8-24	7/16-20	1/2-20	9/16-18
MS20010	**MS20012**	**MS20014**	**MS20016**	Thru	**MS20024**
5/8-18	3/4-16	7/8-14	1-14		1-1/2-12



Example Part#s

MS20006-18 3/8-24 X 1.812, Undrilled Head

MS20008H96 1/2-20 X 6.812, Drilled Head

NAS144 THRU NAS158 BOLT - INTERNAL WRENCHING ALLOY STEEL

160,000 PSI Minimum Tensile Strength

NAS144	**NAS145**	**NAS146**	**NAS147**	**NAS148**	**NAS149**	**NAS150**
1/4-28	5/16-24	3/8-24	7/16-20	1/2-20	9/16-18	5/8-18
NAS152	**NAS154**	**NAS156**	**NAS158**			
3/4-16	7/8-14	1-1/4	1-1/8-12			

Example Part#s

NAS144-25 1/4-28 x 1-9/16, Undrilled Shank, Undrilled Head

NAS148DH-127 1/2-20 x 7-15/16, Undrilled Shank, Drilled Head

NAS150ADH-49 5/8-18 x 3-1/16, Drilled Shank, Drilled Head

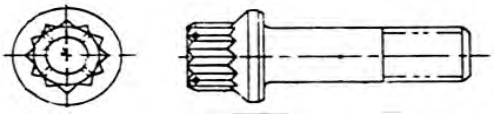
EXTERNAL WRENCHING (12 POINT) BOLTS

BACB30MR 6AL-4V **TITANIUM** 160,000 PSI Tensile Strength

MS21250 Alloy Steel 180,000 PSI Tensile Strength

BACB30LE A286 Stainless 200,000 PSI Tensile Strength

The above bolts are available with Drilled or Undrilled Head.



NOTES MS-NAS bolts may be special order items as stocking levels and availability may be limited.

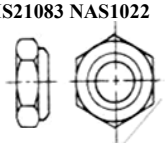
NAS Bolts - To determine the dash # of most NAS bolts and screws, divide the dimensional thickness of parts being joined (or measure the bolt grip to the end of the full cylindrical portion of shank) and divide by .0625. Example: Grip= .250/.0625 =4. MS bolts must be chart referenced.

Skybolt Stocks limited NAS Bolts - Call - We will source

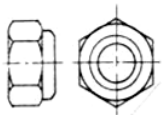
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STANDARD LOCKNUTS

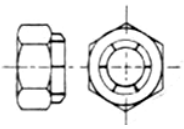
THIN NUT (250F)
MS20364A (AN364) MS21083 NAS1022
Steel-Nylon Insert
Stainless - Nylon Insert
MS20364C (AN364C)
All-Metal
See MS21245



REGULAR NUT (250F)
MS20365A (AN365) MS21044N
Steel-Nylon Insert
MS20365C (AN365)
All-Metal (Steel)
MS21044C
Stainless-Nylon Insert



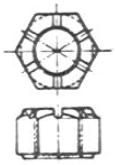
HIGH TEMP ALL-METAL LOCKNUT
MS21045 (450F)
(AN363,NAS1021) Steel
MS21045C (450F)
(AN363C,NAS1021A)CRES
MS21046 (800F)
(NAS1021C) CRES-Silver Plate

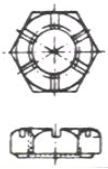


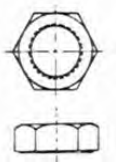
	MS20364 (Stee)	**MS2183 (CRES)**	**MS20365** (Steel-Nylon)	**MS21044C** (Stainless-Nylon)	**AN363** (Steel)	**MS21046** (Stainless)
SIZE	**Part#**		**Part#**	**Part#**	**Part#**	**Part#**
#4-40	MS20364-440A	MS21083C04	MS20365-440A	MS21044C04	AN363-440	MS21046C04
#6-32	MS20364-632A	MS21083C06	MS20365-632A	MS21044C06	AN363-632	MS21046C06
#8-32	MS20364-832A	MS21083C08	MS20365-832A	MS21044C08	AN363-832	MS21046C08
#10-32	MS20364-1032A	MS21083C3	MS20365-1032A	MS21044C3	AN363-1032	MS21046C3
1/4-28	MS20364-428A	MS21083C4	MS20365-428A	MS21044C4	AN363-428	MS21046C4
5/16-24	MS20364-524A	MS21083C5	MS20365-524A	MS21044C5	AN363-524	MS21046C5
3/8-24	MS20364-624A	MS21083C6	MS20365-624A	MS21044C6	AN363-624	MS21046C6
7/16-20	MS20364-720A	MS21083C7	MS20365-720A	MS21044C7	AN363-720	MS21046C7
1/2-20	MS20364-820A	MS21083C8	MS20365-820A	MS21044C8	AN363-820	MS21046C8
9/16-18	MS20364-918A	MS21083C9	MS20365-918A	MS21044C9	AN363-918	MS21046C9
5/8-18	MS20364-1018A	MS21083C10	MS20365-1018A	MS21044C10	AN363-1018	MS21046C10

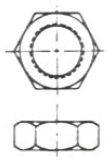
Note: AN365C or MS20365C denote All-Metal (Steel) nuts. Stainless Nylon Locknuts should be ordered as MS21044C. MS20364/AN364 and MS20365/AN365 are interchangeable. MS21044 can replace AN363/NAS1021, butMS20365/AN365 cannot replace MS21044 (not interchangeable). MS21045 can replace AN363C/NAS1021C but are not interchangeable. Because of supply, pricing for AN363C can and does exceed MS21046C.

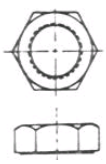
PLAIN NUTS
Procurement Specification FF-N-836
Cadmium Plated Per QQ-P-416
AN360 Meets Specs AN-N-2











Dash#	SIZE	**AN310 CASTLE NUT**	**AN310C CASTLE NUT**	**AN320 SHEAR NUT**	**AN320C SHEAR NUT**	**AN315 PLAIN NUT**	**AN316 CHECK NUT**	**AN360 ENGINE NUT**
-632	#6-32	AN310-632	AN310C632	AN320-632	AN320C632	AN315-632	AN316-632	AN360-632
-832	#8-32	AN310-832	AN310 C832	AN320-832	AN320C832	AN315-832	AN316-832	AN360-832
-3	#10-32	AN310-3	AN310 C3	AN320-3	AN320C3	AN315-3	AN316-3	AN360-3
-4	1/4-28	AN310-4	AN310 C4	AN320-4	AN320C4	AN315-4	AN316-4	AN360-4
-5	5/16-24	AN310-5	AN310 C5	AN320-5	AN320C5	AN315-5	AN316-5	AN360-5
-6	3/8-24	AN310-6	AN310 C6	AN320-6	AN320C6	AN315-6	AN316-6	AN360-6
-7	7/16-20	AN310-7	AN310 C7	AN320-7	AN320C7	AN315-7	AN316-7	AN360-7
-8	1/2-20	AN310-8	AN310 C8	AN320-8	AN320C8	AN315-8	AN316-8	AN360-8
-9	9/16-18	AN310-9	AN310 C9	AN320-9	AN320C9	AN315-9	AN316-9	AN360-9
-10	5/8-18	AN310-10	AN310 C10	AN320-10	AN320C10	AN315-10	AN316-10	AN360-10
-3L	#10-32L					AN315-3L	AN316-3L	
-4L	1/4-28L					AN315-4L	AN316-4L	
-5L	5/16-24L					AN315-5L	AN316-5L	
-6L	3/8-24L					AN315-6L	AN316-6L	
-7L	7/16-20L					AN315-7L	AN316-7L	

Note: AN360 Nuts are designed specifically for engines and should not be used on airframes as per drawing.
AN360 Nuts have base countersunk 90Deg to the threads verses 110Deg for other AN Nuts.

NYLON CAP LOCKNUT
Nylon Cap and Insert 250 Deg 80PSI Steel
Cadmium Plated per QQ-P-416



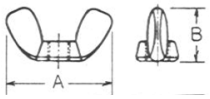
Part#	Size
F22NKTM-62	#6-32
F22NKTM-82	#8-32
F22NKTM-02	#1032
F22NKTE-048	1/4-28

AC CAP NUT
Brass cap nut



Part#	Size
AC632	#6-32
AC832	#8-32
AC1032	#10-32

AN350 WING NUT
Cadmium plated per QQ-P-416



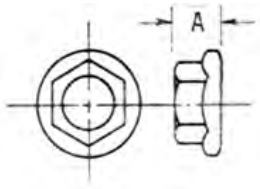
Part#	Size
AN350-632	#6-32
AN350-832	#8-32
AN350-3	#10-32
AN350-4	1/4-28
AN350-5	5/16-24
AN350-6	3/8-24

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REDUCED DIMENSION LOCKNUT MS21042 (450F) MS21043 (800F)

MS21042 - 160,000 PSI Tensile Strength Steel - Cadmium plated per QQ-P-416
Replace (-) with (L) for Dry Film Lubricant.
MS21043 - 125,000 PSI Tensile Strength CRES - Silver plated
Superceeds MS21040, NAS679, NAS1021, NAS1022, NAS1291

MS21042	Thread	Amax	Axial Strength	Weight
MS21042-02	#2-56	.100	660LB	.09g
MS21042-04	#4-40	.125	1,110	.23
MS21042-06	#6-32	.141	1,670	.36
MS21042-08	#8-32	.188	2,490	.68
MS21042-3	#10-32	.188	3,470	.82
MS21042-4	1/4-28	.219	6,200	1.59
MS21042-5	5/16-24	.260	9,820	2.72
MS21042-6	3/8-24	.282	15,200	3.63



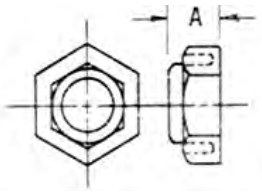
Note: MS20365-1032A = 2.3grams MS21042 Cadmium Plated Steel are stock items.
MS21042 Nuts are sometimes referred to as Jet Nuts or Kaynuts.

MS21043	Thread	Amax	Axial Strength	Weight
MS21043-04	#4-40	.125	750LB	.23g
MS21043-06	#6-32	.141	1,136	.36
MS21043-08	#8-32	.188	1,720	.68
MS21043-3	#10-32	.188	2,460	.82
MS21043-4	1/4-28	.219	4,580	1.59
MS21043-5	5/16-24	.266	7,390	2.72
MS21043-6	3/8-24	.282	11,450	3.63

LOW HEIGHT HEX LOCKNUT NAS679 (450F AND 800F)

125,000 PSI Tensile Strength Steel - Cadmium plated per QQ-P-416 with Dry Film Lubricant. Replace (A) with (X) for Cadmium plate without Dry Film Lubricant. CRES - Replace (A) with (C). Add (W) to dash# to indicate internal wrenching feature.

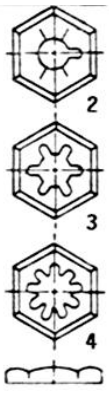
NAS679	Thread	Amax	Axial Strength	Weight
NAS679A04	#4-40	.125	750LB	.59g
NAS679A06	#6-32	.141	1,130	1.04
NAS679A08	#8-32	.188	1,720	1.27
NAS679A3	#10-32	.188	2,460	1.59
NAS679A4	1/4-28	.219	4,580	2.41
NAS679A5	5/16-24	.266	7,390	3.86
NAS679A6	3/8-24	.282	11,450	4.99
NAS679A7	7/16-20	.328	15,450	8.84



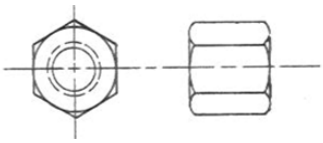
PAL NUT MS27151 and USAF 356

SAE 1050 Spring Steel (MS27151)
Cadmium Plated per QQ-P-416

MS27151	Type	Size	USAF 356
MS27151-5	2	#6-32	-632
MS27151-6	2	#8-32	-832
MS27151-7	2	#10-32	-1032
MS27151-8	2	#10-24	-1024
MS27151-12	3	1/4-20	-420
MS27151-13	3	1/4-28	-428
MS27151-15	3	5/16-18	-518
MS27151-16	4	5/16-24	-524
MS27151-18	3	3/8-16	-616
MS27151-19	4	3/8-24	-624
MS27151-21	4	7/16-20	-720
MS27151-23	3	1/2-13	-813
MS27151-24	4	1/2-20	-820



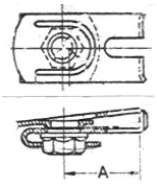
EXHAUST MANIFOLD NUTS



Part#	Size	Application
NAF213790-4 or 21247	1/4-28	Cont 0470
NAF213790-5 or 22022	5/16-24	Cont A65,C75 thru C90,O200 O300
CONT 643967	1/4-28	Cont O470
STD1410	5/16-18	Steel Lycoming

FLOATING CLIP-ON NUTS

MIL-N-25027 125,000 PSI
Hardened SAE 1050 Steel
Cadmium Plated per QQ-P-416
(Nut and Clip)



Part#	Size	Sheet Thickness	'A'
294667	#6-32	.030-.051	.295
130007	#8-32	.020-.090	.515
130008	#8-32	.020-.070	.400
130061	#10-32	.020-.090	.515
130062	#10-32	.020-.090	.665
130068	#10-32	.140-.230	.740

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MS17825 - CASTELLATED NUT, LOCKING, Regular Height

Steel - Cadmium plated per QQ-P-416, Nylon Insert 250 Deg F

MS17826 - CASTELLATED NUT, LOCKING, Thin

Steel - Cadmium plated per QQ-P-416, Nylon Insert 250 Deg F

MS17825	Thread	Amax	Axial Strength	Weight	MS17826	Amax	Axial Strength	Weight
MS17825-3	#10-32	.265	1950LB	1.81g	MS17826-3	.203	1000LB	1.54g
MS17825-4	1/4-28	.296	3500	2.95	MS17826-4	.203	1800	1.81
MS17825-5	5/16-24	.343	5500	4.54	MS17826-5	.203	2900	2.49
MS17825-6	3/8-24	.421	9000	6.35	MS17826-6	.234	4100	3.40
MS17825-7	7/16-20	.468	12200	9.07	MS17826-7	.234	5000	3.86
MS17825-8	1/2-20	.578	16600	17.69	MS17826-8	.265	5600	7.26
MS17825-9	9/16-18	.624	21200	31.30	MS17826-9	.328	7800	13.61
MS17825-10	5/8-18	.734	27400	51.71	MS17826-10	.328	10000	18.14
MS17825-12	3/4-16	.828	40000	76.66	MS17826-12	.390	15500	26.54





MS17825

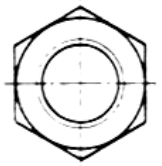


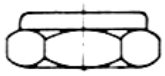
MS17826

MS21245 (MS20364C) - NUT, LOCKING Thin

Steel - Cadmium plated per QQ-P-416, Allmetal Nut 450 Deg F
80,000 PSI Tensile Strength

MS21245	MS20364	Thread	Amax	Axial Strength	Weight
	MS20364-632C	#6-32	.125		
	MS20364-832C	#8-32	.172		
	MS20364-1032C	#10-32	.172		
	MS20364-428C	1/4-28	.203		
	MS20364-524C	5/16-24	.250		
	MS20364-624C	3/8-24	.266		
MS21245-7	MS20364-720C	7/16-20	.328	10300	8.75g
MS21245-8	MS20364-820C	1/2-20	.328	13750	9.89
MS21245-9	MS20364-918C	9/16-18	.375	17400	15.47
MS21245-10	MS20364-1018C	5/8-18	.407	21800	18.00
MS21245-12	MS20364-1216C	3/4-16	.422	31800	24.99

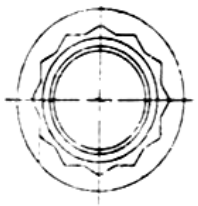


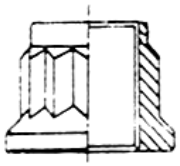


NAS1804
BACN10GW - 12 POINT NUT, LOCKING

Alloy Steel per ANS6304 Heat Treated, Cadmium plated per QQ-P-416, 450 Deg f
180,000 PSI Tensile Strength

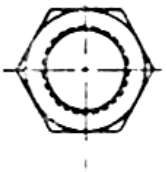
NAS1804	Thread	Amax	Axial Strength	Weight
NAS1804-3	#10-32	.190	4035LB	.95g
NAS1804-4	1/4-28	.250	7200	1.91
NAS1804-5	5/16-24	.285	11400	3.22
NAS1804-6	3/8-24	.375	17000	5.72
NAS1804-7	7/16-20	.438	23000	9.62
NAS1804-8	1/2-20	.500	30700	13.65
NAS1804-9	9/16-18	.562	38900	18.69
NAS1804-10	5/8-18	.625	48700	24.31
NAS1804-12	3/4-16	.750	70800	43.86





MACHINE SCREW NUT AN340 and AN345

SIZE	AN340	MS35649	SIZE	AN345	MS35650
#4-40	AN340-4	-242	#8-36	AN345-8	-382
#4-40	AN340B4	-245	#10-32	AN345-10	-302
#4-40	AN340C4	-244	#10-32	AN345C10	-304
#6-32	AN340-6	-262	#10-32	AN345B10	-305
#6-32	AN340C6	-264	1/4-28	AN345-416	-3252
#6-32	AN340B6	-265	1/4-28	AN345C416	-3254
#8-32	AN340-8	-282	5/16-24	AN345-516	-3312
#8-32	AN340C8	-284	3/8-24	AN345-616	-3382
#8-32	AN340B8	-286			
#10-24	AN340-10	-202			
#10-24	AN340C10	-204			
1/4-20	AN340-416	-2252			
1/4-20	AN340C416	-2254			
5/16-18	AN340-516	-2312			
3/8-16	AN340-616	-2382			





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Recommended Torque Values for Nut-Bolt Combinations

(Without Lubrication) Reference - AC 43.13-1A

Bolts Steel Tension	Bolts Steel Tension	Bolts Aluminum
AN 3 thru AN 20	MS20004 thru 20024	AN 3DD thru AN 20DD
An 42 thru AN 49	NAS 144 thru NAS 158	AN 173DD thru AN 186 DD
AN 173 thru AN 186	NAS 333 thru 340	AN 509DD
MS 20033 thru MS 20046	NAS 583 thru NAS 590	AN525D
MS20073	NAS 624 thru NAS 644	MS 27039D
MS20074	NAS 1303 thru NAS 1320	MS24694DD
AN509	NAS 172	
MS24694	NAS 174	
AN 525	NAS 517	
MS27039	NAS464	

Nuts		Nuts		Nuts	
Steel Tension	Steel Shear	Steel Tension	Steel Shear	Aluminum Tension	Aluminum Shear
AN 310	AN 320	AN 310	AN 320	AN 365 D	AN 320 D
AN 315	AN 634	AN 315	AN 364	AN 310 D	AN 364 D
AN 363	NAS 1022	AN 363	NAS 1022	NAS 1021 D	NAS 1022 D
AN 365	MS 17826	AN 365	MS 17826		
NAS 1021	MS 20364	MS 17825	MS 20364		
MS 17825		MS 20365			
MS 21045		MS 21045			
MS 20365		NAS 1021			
MS 20500		NAS 679			
NAS 679		NAS 1291			

FINE THREAD SERIES

Nut Bolt size	Torque Limits in lbs.		Torque Limits in lbs.		Torque Limits in lbs.		Torque Limits in lbs.		Torque Limits in lbs.		Torque Limits in lbs.	
	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max
8-36	12	15	7	9	----------	----------			5	10	3	6
10-32	20	25	12	15	25	30	15	20	10	15	5	10
1/4-28	50	70	30	40	80	100	50	60	30	45	15	30
5/16-24	100	140	60	85	120	145	70	90	40	65	25	40
3/8-24	160	190	95	110	200	250	120	150	75	110	45	70
7/16-20	450	500	270	300	520	630	300	400	180	280	110	170
1/2-20	480	690	290	410	770	950	450	550	280	410	160	260
9/16-18	800	1,000	480	600	1,100	1,300	650	800	380	580	230	360
5/8-18	1,100	1,300	660	780	1,250	1,550	750	950	550	670	270	420
3/4-16	2,300	2,500	1,300	1,500	2,650	3,200	1,600	1,900	950	1,250	560	880
7/8-14	2,500	3,000	1,500	1,800	3,550	4,350	2,100	2,600	250	1,900	750	1,200
1-14	3,700	4,500	2,200	3,300	4,500	5,500	2,700	3,300	600	2,400	950	1,500
1 1/8-12	5,000	7,000	3,000	4,200	6,000	7,300	3,600	4,400	100	3,200	1,250	2,000
1 1/4-12	9,000	11,000	5,400	6,600	11,000	13,400	6,600	8,000	900	5,600	2,300	3,650

COARSE THREAD SERIES

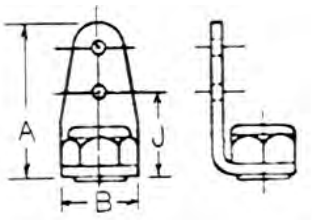
Nut Bolt size	Torque Limits in lbs.		Torque Limits in lbs.	
	Min.	Max	Min.	Max
8 -32	12	15	7	9
10-24	20	25	12	15
1/4-20	40	50	25	30
5/16-18	80	90	48	55
2/8-16	160	185	95	110
7/16-14	235	255	140	155
1/2-13	400	480	240	290
9/16-12	500	700	300	420
5/8-11	700	900	420	540
3/4-10	1,150	1,600	700	950
7/4-9	2.2	3,000	1,300	1,800
1 -8	3,700	5,000	2,200	3,000
1 1//8-8	5,500	6,500	3,300	4,000
1 1/4-8	6,500	8,000	4,000	5,000

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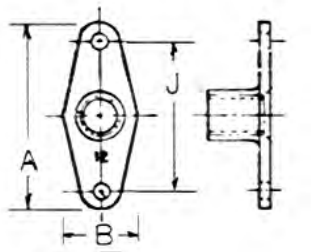
AN256 RIGHT ANGLE PLATENUT (NYLON INSERT) 250 Deg F

AN256	Thread	A	B	J
AN256F6	#6-32	.859	.438	.468
AN256F8	#8-32	.859	.438	.468
AN256F10	#10-32	.859	.438	.468



MS20501 TWO LUG PLATENUT (ALL METAL) 1200 Deg F

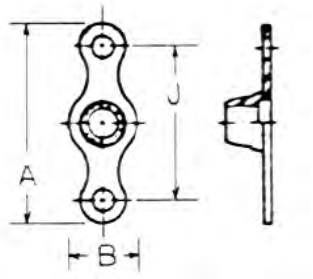
Dash#	Thread	A Max	B Max	J Min	J Max
MS20501-632	#6-32	.986	.407	.686	.690
MS20501-832	#8-32	.986	.407	.686	.690
MS20501-1032	#10-32	.986	.407	.686	.690
MS20501-428	1/4-28	1.298	.516	.998	1.002
MS20501-524	5/16-24	1.298	.532	.998	1.002
MS20501-624	3/8-24	1.298	.641	.998	1.002



MS21047 TWO LUG PLATENUT (ALL METAL) 450 Deg F

Add K to Dash# to denote Dimpled rivet holes.

Dash#	AN362 AN366	NAS 680	K1000	Thread	A Max	B Min	B Max	J
MS21047L04				#4-40	.948	.195	.260	.688
MS21047L06	F632	06	-06	#6-32	.948	.239	.265	.688
MS21047L08	F832	08	-08	#8-32	.948	.277	.297	.688
MS21047L3	F1032	3	-3	#10-32	.948	.308	.328	.688
MS21047L4	F428	4	-4	1/4-28	1.260	.308	.414	1.000
MS21047L5	F524	5	-5	5/16-24	1.292	.375	.505	1.000
MS21047L6	F624	6		3/8-24	1.292	.485	.614	1.000



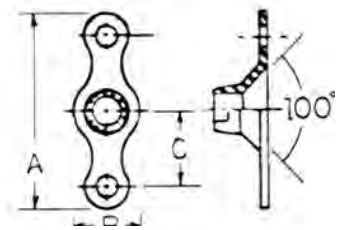
MS21048 Same as MS21047 except: Stainless 450F or 800F with Silver Plating

Supercedes AN362, AN366, NAS680

MS21049 TWO LUG 100Deg CSK PLATENUT (ALL METAL) 450 Deg F

Add K to Dash# to denote Dimpled rivet holes.

Dash#	AN361 AN373F	NAS 681	Thread	A Max	B Min	B Max	C
MS21049L08	-832	-08	#8-32	.948	.360	.422	.344
MS21049L3	-1032	-3	#10-32	.948	.406	.453	.344
MS21049L4	-428	-4	1/4-28	1.260	.535	.619	.500
MS21049L5	-524	-5	5/16-24	1.292	.681	.766	.500

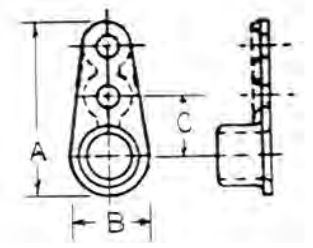


MS21050 Same as MS21049 except: Stainless 450F or 800F with Silver Plating

Supercedes NAS681 and AN361

MS21051 ONE LUG PLATENUT (ALL METAL) 450 Deg F

Dash#	NAS 682	K2000	Thread	A Max	B Min	B Max	C
MS21051L06	-06	-06	#6-32	.935	.239	.297	.344
MS21051L08	-08	-08	#8-32	.935	.277	.297	.344
MS21051L3	-3	-3	#10-32	.950	.308	.328	.344
MS21051L4	-4	-4	1/4-28	.993	.375	.414	.344
MS21051L5	-5	-5	5/16-24	1.210	.485	.505	.500
MS21051L6	-6	-6	3/8-24	1.264	.594	.614	.500



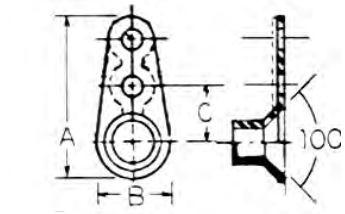
MS21052 Same as MS21051 except: Stainless 450F or 800F with Silver Plating

Supercedes NAS682

MS21053 ONE LUG 100 Deg CSK PLATENUT (ALL METAL) 450 Deg F

Add K to Dash# to denote Dimpled rivet holes.

Dash#	NAS 683	Thread	A Max	B Min	B Max	C
MS21053L08	-08	#8-32	.997	.360	.422	.344
MS21053L3	-3	#10-32	1.013	.406	.453	.344
MS21053L4	-4	1/4-28	1.252	.535	.619	.500
MS21053L5	-5	5/16-24	1.340	.681	.766	.500



MS21054 Same as MS21053 except: Stainless 450F or 800F with Silver Plating

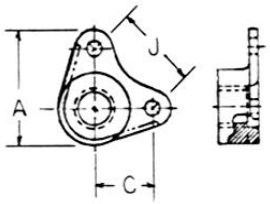
Supercedes NAS683

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MS21055 CORNER PLATENUT (All Metal) 450Deg F

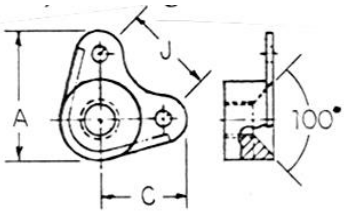
Dash#	NAS 684	K3000	Thread	A Max	C	J
MS21055L06	06	-06	#6-32	.637	.344	.486
MS21055L08	08	-08	#8-32	.637	.344	.486
MS21055L3	3	-3	#10-32	.653	.344	.486
MS21055L4	4	-4	1/4-28	.852	.500	.707
MS21055L5	5	-5	5/16-24	.914	.500	.707
MS21055L6	6		3/8-24	.968	.500	.707
MS21055L7	7		7/16-20	1.101	.562	.795



MS21056 Same as MS21055 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS684

MS21057 CORNER 100 Deg CSK PLATENUT (All Metal) 450Deg F

Dash#	NAS 685	Thread	A Max	C	J
MS21057L06	-06	#6-32	.700	.344	.486
MS21057L08	-08	#8-32	.700	.344	.486
MS21057L3	-3	#10-32	.716	.344	.486
MS21057L4	-4	1/4-28	.955	.500	.707
MS21057L5	-5	5/16-24	1.044	.500	.707

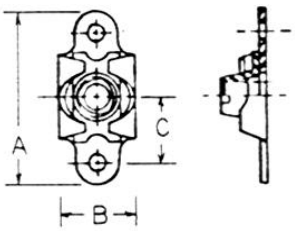


MS21058 Same as MS21057 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS685

MS21059 TWO LUG FLOATING PLATENUT (All Metal) 450Deg F

Add K to Dash# to denote Dimpled rivet and center holes.

Dash#	NAS 686	F5000	Thread	A Max	B Min	B Max	C
MS21059L04	-04	-04	#4-40	.948	.290	.416	.344
MS21059L06	-06	-06	#6-32	.948	.290	.416	.344
MS21059L08	-08	-08	#8-32	.948	.290	.416	.344
MS21059L3	-3	-3	#10-32	.948	.290	.416	.344
MS21059L4	-4	-4	1/4-28	1.292	.350	.516	.500
MS21059L5	-5	-5	5/16-24	1.292	.412	.609	.500
MS21059L6	-6	-6	3/8-24	1.292	.475	.680	.500

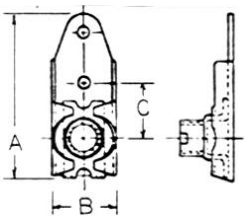


MS21060 Same as MS21059 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS686

MS21061 ONE LUG FLOATING PLATENUT (All Metal) 450Deg F

Add K to Dash# to denote Dimpled rivet and center holes.

Dash#	NAS 687	F2000	Thread	A Max	B Min	B Max	C
MS21061L04	-04	-04	#4-40	1.051	.290	.422	.344
MS21061L06	-06	-06	#6-32	1.051	.290	.422	.344
MS21061L08	-08	-08	#8-32	1.051	.290	.422	.344
MS21061L3	-3	-3	#10-32	1.051	.290	.422	.344
MS21061L4	-4	-4	1/4-28	1.306	.350	.531	.500
MS21061L5	-5	-5	5/16-24	1.306	.412	.641	.500

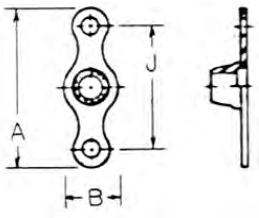


MS21062 Same as MS21061 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS687

MS21069 TWO LUG PLATENUT - MINIATURE (All Metal) 450Deg F

Add K to dash# to denote Dimpled rivet and center holes.

Dash#	NAS 697	MK1000	Thread	A Max	B Min	B Max	J
MS21069L02	-02	-02	#2-56	.410	.140	.162	.250
MS21069L04	-04	-04	#4-40	.630	.140	.260	.406
MS21069L06	-06	-06	#6-32	.661	.195	.265	.437
MS21069L08	-08	-08	#8-32	.692	.230	.297	.468
MS21069L3	-3	-3	#10-32	.724	.298	.328	.500
MS21069L4	-4	-4	1/4-28	.786	.380	.414	.562
MS21069L5	-5	-5	5/16-24	1.006	.475	.505	.718
MS21069L6	-6	-6	3/8-24	1.116	.580	.614	.828



MS21070 Same as MS21069 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS697

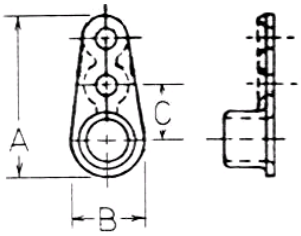
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MS21071 ONE LUG - MINIATURE (ALL METAL) 450 Deg F

Add K to Dash# to denote Dimpled rivet and center holes.

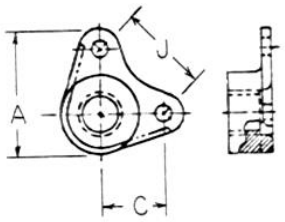
Dash#	NAS 696	MK2000	Thread	A Max	B Min	B Max	C
MS21071L02	02	-02	#2-56	.507	.140	.162	.125
MS21071L04	04	-04	#4-40	.667	.140	.260	.203
MS21071L06	06	-06	#6-32	.684	.195	.265	.218
MS21071L08	08	-08	#8-32	.716	.235	.297	.234
MS21071L3	3	-3	#10-32	.745	.298	.328	.250
MS21071L4	4	-4	1/4-28	.822	.380	.414	.281
MS21071L5	5	-5	5/16-24	1.06	.475	.505	.359
MS21071L6	6	-6	3/8-24	1.39	.580	.614	.414



MS21072 Same as MS21071 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS696

MS21073 CORNER PLATENUT - MINIATURE

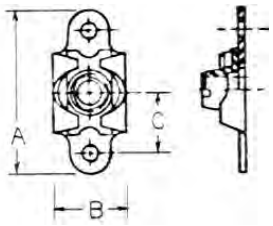
Dash#	NAS 698	Thread	A Max	C	J
MS21031L02	-02	#2-56	.288	.125	.177
MS21031L04	-04	#4-40	.448	.203	.287
MS21031L06	-06	#6-32	.463	.218	.308
MS21031L08	-08	#8-32	.497	.234	.331
MS21031L3	-3	#10-32	.526	.250	.354
MS21031L4	-4	1/4-28	.603	.281	.398
MS21031L5	-5	5/16-24	.757	.359	.508
MS21031L6	-6	3/8-24	.870	.414	.585



MS21074 Same as MS21073 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS698

MS21075 TWO LUG FLOATING - MINIATURE

Dash#	NAS 1068	MF5000	Thread	A Max	B Min	B Max	C
MS21075L04	-04	-04	#4-40	.651	.275	.315	.203
MS21075L06	-06	-06	#6-32	.682	.290	.357	.218
MS21075L08	-08	-08	#8-32	.707	.290	.367	.234
MS21075L3	-3	-3	#10-32	.739	.290	.416	.250
MS21075L4	-4	-4	1/4-28	.801	.350	.500	.281
MS21075L5	-5	-5	5/16-24	1.010	.412	.581	.359



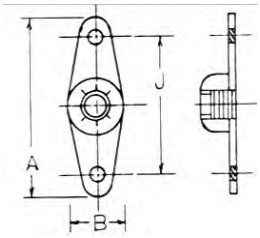
MS21076 Same as MS21075 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS1068

MS21077 Same as MS21075 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS1031D and NAS1031N

MS21078 TWO LUG PLATENUT (NYLON INSERT)

Dash#	AN366	NAS 1023N	F22NA1	Thread	A Max	B Min	B Max	J
MS21078-04		-04	-04	#4-40	.984	.375	.406	.688
MS21078-06	F632	-06	-06	#6-32	.984	.375	.406	.688
MS21078-08	F832	-08	-08	#8-32	.984	.375	.406	.688
MS21078-3	F1032	-3	-3	#10-32	.984	.375	.406	.688
MS21078-4	F428	-4	-4	1/4-28	1.296	.484	.516	1.000
MS21078-5	F524	-5	-5	5/16-24	1.296	.500	.531	1.000
MS21078-6	F624	-6	-6	3/8-24	1.296	.609	.641	1.000

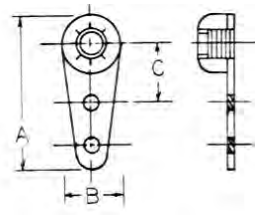
Use MS21047 if applicable



MS21080 ONE LUG PLATENUT (NYLON INSERT)

Dash#	NAS 1025N	Thread	A Max	B Min	B Max	C
MS21080-06	-06	#6-32	1.031	.375	.406	.344
MS21080-08	-08	#8-32	1.031	.375	.406	.344
MS21080-3	-3	#10-32	1.031	.375	.406	.344
MS21080-4	-4	1/4-28	1.062	.438	.516	.344
MS21080-5	-5	5/16-24	1.250	.500	.531	.500
MS21080-6	-6	3/8-24	1.344	.609	.641	.500

Use MS21051 if applicable

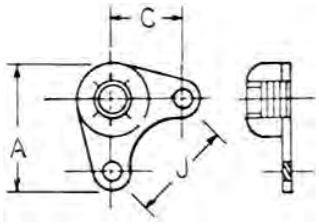


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PLATENUTS

MS21081 CORNER PLATENUT (NYLON INSERT) 250 Deg F

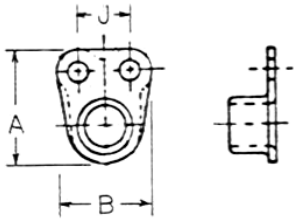
Dash#	NAS 1027N	22NA5	Thread	A Max	B Min	J
MS21081-06	06	-62	#6-32	.703	.344	.486
MS21081-08	08	-82	#8-32	.703	.344	.486
MS21081-3	3	-02	#10-32	.703	.344	.486
MS21081-4	4	-048	1/4-28	.906	.500	.486
MS21081-5	5	-054	5/16-24	.937	.500	.707
MS21081-6	6	-064	3/8-24	1.008	.500	.707



MS21082 Same as MS21080 except with Floating Nut 250 Deg F
Supercedes NAS1032N

MS21086 SIDE BY SIDE RIVET SPACED PLATENUT (ALL METAL) 450 Deg F

Dash#	NAS 1067	Thread	A Max	B Min	B Max	J
MS21086-08	-08	#8-32	.486	.235	.297	.219
MS21086-3	-3	#10-32	.521	.298	.328	.219
MS21086-4	-4	1/4-28	.591	.380	.414	.219
MS21086-5	-5	5/16-24	.747	.475	.505	.269
MS21086-6	-6	3/8-24	.856	.580	.614	.269



MS21087 Same as MS21086 except: Stainless 450F or 800F with Silver Plating
Supercedes NAS1067

AN Notes: No letter - Denotes Aluminum plate. F - Denotes Steel Plate.
MS Notes: No letter - Non Dry Film Lubricant, Plain holes. L - Dry Film Lubricant. K - Countersunk or Dimpled holes. W - Welding projection. All MS Platenuts meet MIL-N-25027 Specifications, 125 KSI except MS20501 which meets MIL-N-7873 Specifications, 125 KSI.
NAS Notes: No letter - Cadmium Plated with Dry Film Lubricant.
Sample Manufacturer's Part Numbers: ESNA - F22NA1. Kaynar - K3000. SPS - NS103185S. Republic - BR3100A. Voi-Shan - VN111D1. Cherry or Boots - T8121S.

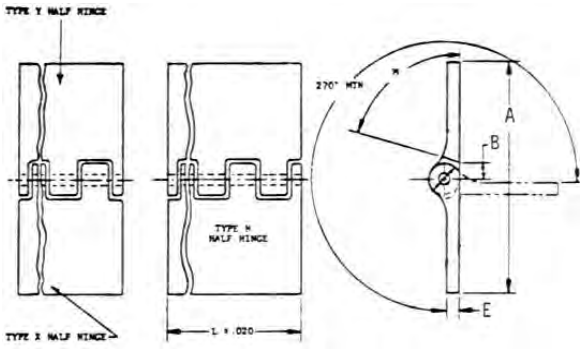
HINGES

Sold as Standard 72" Lengths Only.

MS20001 Supercedes AN252 - EXTRUDED HINGE, STRUCTURAL

Aluminum Alloy - 2024-T3511 per QQ-A-200/3, Anodized.
Aluminum Alloy - 7075-T73511 per QQ-A-200/11, Anodized.
Denote 7075 Aluminum by adding 'A' to part number.
P' denotes anodized finish. Denote 'L' after dash# in inches and hundreds. EX: MS20001P4-12.00 denotes 2024 Alum., Anodized, 12" long. Part numbers listed are interchangeable.

MS20001	AN252	A ref Width Open	E Max	E Min	B	Pin Dash#
MS20001P2	-2	1.062	.056	.044	.135	2
MS20001P3		1.250	.056	.044	.135	2
MS20001P4	-4	1.500	.056	.044	.135	2
MS20001P5		1.750	.056	.044	.135	2
MS20001P6	-6	2.000	.056	.044	.135	2

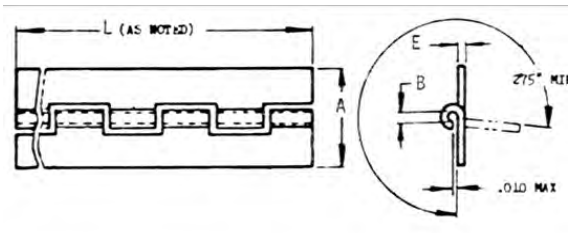


Note: Hinges may be special order only

MS20257 - CONTINUOUS HINGE

Aluminum Alloy - 5052 H24 or H34 per QQ-P-A-250/8, Anodized. CRES. 'P' denotes anodized aluminum. 'C' denotes CRES.

MS20257	A ref Width Open	E Alum	E CRES	B Alum	B CRES	Pin* Dash#
MS20257P1	.750	.032	.031	.169	.166	1
MS20257P2	1.062	.040	.037	.220	.211	2
MS20257P3	1.250	.040	.050	.220	.278	2
MS20257P4	1.500	.040	.062	.220	.314	2
MS20257P5	2.000	.051	.062	.253	.376	2
MS20257P6	2.000	.064	.062	.382	.376	4



*For Aluminum Hinge Only

MS20253 - STAINLESS HINGE PIN

MS20253	Dia	For Use With: MS20001	MS20257P	MS20257C
MS20253-1	.062		1	1
MS20253-2	.089	1,2,3,4,5,6	2,3,4,5	2
MS20253-3	.117			3,4
MS20253-4	.179		4	5,6

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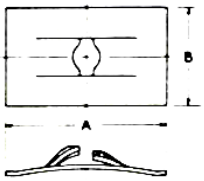
TINNERMAN NUTS

Spring Steel - Phosphate Coated, Olive Drab Paint
Use with AN530, AN531, or MS21207 Screws

Standard Package 25

FLAT TYPE NAS446

Part#	NAS446	A	B	Screw Size
A1776-4Z-1	-1	.500	.31	#4
A1181-6Z-1	-2	.510	.31	#6
A1777-6Z-1	--	.630	.44	#6
A1778-8Z-1	-4	.630	.44	#8
A1779-10Z-1	-5	.880	.50	#10



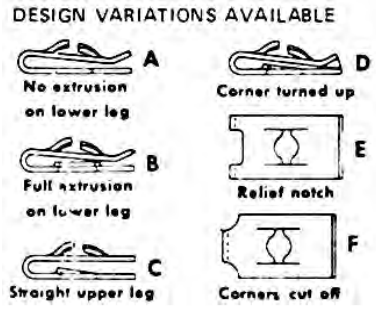
ANGLE BRACKET

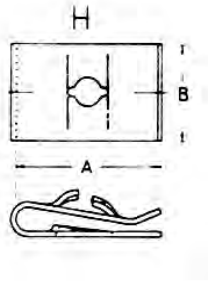
Part#	Screw Size
A6083-8Z-1	#8

Note: Standard design has locking extrusion on lower leg unless noted by "TYPE" variation

U TYPE NAS395 NAS396

Part#	NAS	A	B	Screw Size	Type
A6187-4Z-1	395-1	.380	.31	#4	D
A1784-6Z-1	395-6	.610	.44	#6	E
A1785-6Z-1	395-7	.840	.44	#6	E
A1274-8Z-1	395-14	.500	.50	#8	DEH
A1348-8Z-1	395-17	.730	.50	#8	AE
A1786-8Z-1	395-12	.530	.50	#8	CEH
A1787-8Z-1	395-18	.840	.44	#8	E
A1789-8Z-1	395-16	.610	.44	#8	E
A1932-8Z-1	395-4	.580	.50	#8	BE
A1350-10Z-1	395-25	.730	.50	#10	AE
A1758-10Z-1	395-24	.620	.44	#10	E
A1787-10Z-1	--	.840	.44	#10	E
A1791-10Z-1	--	.600	.63	#10	EH

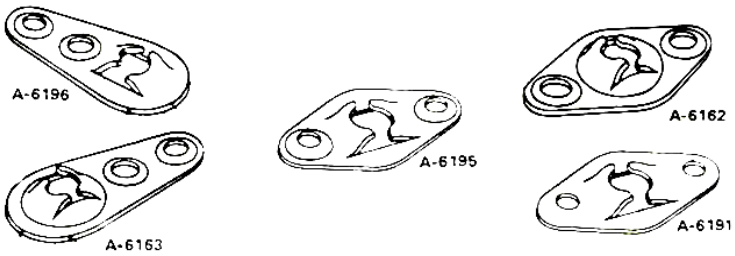




ANCHOR TYPE

Part#	A*	Screw Size	Style
A6191-4Z-1	.687	#4	Flat
A6162-6Z-1	.687	#6	Dimpled
A6163-6Z-1	.312	#6	Dimpled
A6191-6Z-1	.687	#6	Flat
A6195-6Z-1	.687	#6	Dimpled
A6162-8Z-1	.687	#8	Dimpled
A6163-8Z-1	.312	#8	Dimpled
A6191-8Z-1	.687	#8	Flat
A6195-8Z-1	.687	#8	Dimpled
A6196-8Z-1	.312	#8	Dimpled
A6191-10Z-1	.687	#10	Dimpled

*Distance between mounting holes.

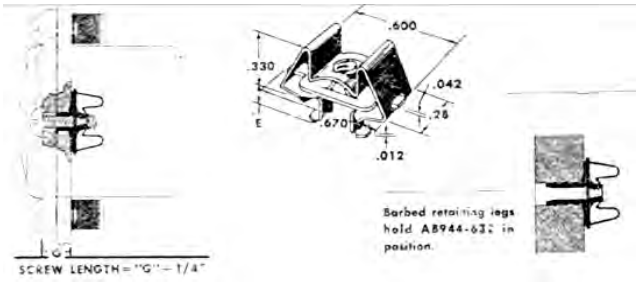


INSTRUMENT MOUNTING NUT NAS487

BRASS - Cadmium Plated per QQ-P-416

Part#	NAS487	Panel Thickness
A8939-632	-14	.086-.096
A6939-632	-15	.115-.125
A8940-632	-16	.177-.187
A8941-632	-17	.240-.250
A8942-632	-18	.303-.313
A8943-632	-20	.365-.375
A8944-632	-21	> .390

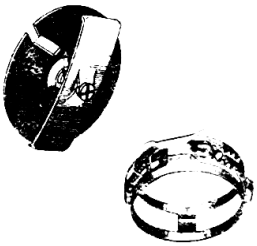
Note: All Instrument Nuts use #6-32 Brass Screws.



PATCH PLATES

Used as inspection hole covers and for sealing holes left after equipment removal.

Part#	Screw Size	Hole Dia
A6912-832-1	#8-32	.906
A6913-1024-1	#10-24	1.125
A6914-1024-1	#10-24	1.375



HOSE CLAMPS

Self-locking, ratchet-type hose clamps
Fast, easy installation and removal on low-and medium-pressure connections.

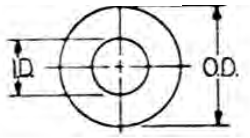
Part#	NAS#	Hose OD Min	Hose OD Max
A3122-8-1J	397-8	15/32	1/2
A3122-10-1J	397-10	9/16	5/8
A3122-12-1J	397-12	11/16	3/4
A3122-14-1J	397-14	13/16	7/8
A3122-16-1J	397-16	15/16	1
A3122-18-1J	397-18	1-1/16	1-1/8
A3122-22-1J	397-22	1-1/4	1-3/8
A3122-24-1J	397-24	1-11/32	1-1/2
A3122-28-1J	397-28	1-19/32	1-3/4

Note: Tinnerman part numbers are becoming increasingly difficult to obtain and some parts may not be available at any price.

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FLAT WASHER AN960 and AN960L SERIES

MIL-S-7952 - Steel - Cadmium plated per QQ-P-416
Stainless 300 Series 18-8
Aluminum Alloy 2024 per QQ-A250/4
Aluminum Alloy, Anodized per MIL-8625 or MIL-C-5541



DASH NUMBERS Washer Pricing per 100 or .10 ea Standard Package - 100

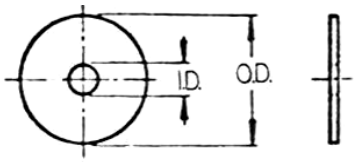
Carbon Steel	CRES	Alum	Alum	SIZE	ID	OD	T
AN960-3L	AN960C3L	AN960D3L	AN960PD3L	#3	0.105	0.25	0.016
AN960-3	AN960C3	AN960D3	AN960PD3	#3	0.105	0.25	0.032
AN960-4L	AN960C4L	AN960D4L	AN960PD4L	#4	0.125	0.312	0.016
AN960-4	AN960C4	AN960D4	AN960PD4	#4	0.125	0.312	0.032
AN960-6L	AN960C6L	AN960D6L	AN960PD6L	#6	0.149	0.375	0.016
AN960-6	AN960C6	AN960D6	AN960PD6	#6	0.149	0.375	0.032
AN960-8L	AN960C8L	AN960D8L	AN960PD8L	#8	0.174	0.375	0.016
AN960-8	AN960C8	AN960D8	AN960PD8	#8	0.174	0.375	0.032
AN960-10L	AN960C10L	AN960D10L	AN960PD10L	#10	0.203	0.438	0.032
AN960-10	AN960C10	AN960D10	AN960PD10	#10	0.203	0.438	0.063
AN960-416L	AN960C416L	AN960D416L	AN960PD416L	1/4	0.265	0.5	0.032
AN960-416	AN960C416	AN960D416	AN960PD416	1/4	0.265	0.5	0.063
AN960-516L	AN960C516L	AN960D516L	AN960PD516L	5/16	0.328	0.562	0.032
AN960-516	AN960C516	AN960D516	AN960PD516	5/16	0.328	0.562	0.063
AN960-616L	AN960C616L	AN960D616L	AN960PD616L	3/8	0.39	0.625	0.032
AN960-616	AN960C616	AN960D616	AN960PD616	3/8	0.39	0.625	0.063
AN960-716L	AN960C716L	AN960D716L	AN960PD716L	7/16	0.453	0.75	0.032
AN960-716	AN960C716	AN960D716	AN960PD716	7/16	0.453	0.75	0.063
AN960-816L	AN960C816L	AN960D816L	AN960PD816L	1/2	0.515	0.875	0.032
AN960-816	AN960C816	AN960D816	AN960PD816	1/2	0.515	0.875	0.063
AN960-916L	AN960C916L	AN960D916L	AN960PD916L	9/16	0.578	1.062	0.032
AN960-916	AN960C916	AN960D916	AN960PD916	9/16	0.578	1.062	0.063
AN960-1016L	AN960C1016L	AN960D1016L	AN960PD1016L	5/8	0.64	1.188	0.032
AN960-1016	AN960C1016	AN960D1016	AN960PD1016	5/8	0.64	1.188	0.063
AN960-1216L	AN960C1216L	AN960D1216L	AN960PD1216L	3/4	0.765	1.312	0.032
AN960-1216	AN960C1216	AN960D1216	AN960PD1216	3/4	0.765	1.312	0.090

Note: AN960 washers are an SAE equivalent fit.

LARGE AREA FLAT WASHER AN970

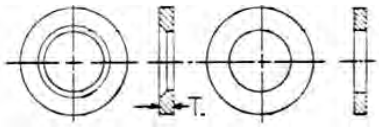
Steel - Cadmium Plated per QQ-P-416, Type II, Class 2

AN970	Bolt Size	I.D.	O.D.	Thickness
AN970-3	#10	.203	.875	.063
AN970-4	1/4	.265	1.125	.063
AN970-5	5/16	.328	1.375	.063
AN970-6	3/8	.390	1.625	.063
AN970-7	7/16	.453	1.812	.109
AN970-8	1/2	.515	2.000	.109
AN970-9	9/16	.578	2.188	.125
AN970-10	5/8	.640	2.375	.125



HIGH STRENGTH PLAIN & CSK WASHER MS20002 NAS143

Heat Treated to 145,000 PSI Cadmium Plated per QQ-P-416 Type II, Class 2.



COUNTERSUNK		PLAIN		BOLT	
MS20002	NAS143	MS20002	NAS143	SIZE	T
MS20002C4	-4C	MS20002-4	-4	1/4	.078
MS20002C5	-5C	MS20002-5	-5	5/16	.078
MS20002C6	-6C	MS20002-6	-6	3/8	.078
MS20002C7	-7C	MS20002-7	-7	7/16	.078
MS20002C8	-8C	MS20002-8	-8	1/2	.078

Note: Sizes continue to 1-1/4 inch bolt size.

SPRING WASHER MS35338 or AN935

Steel - Cadmium Plated per QQ-P-416, Type II, Class 2. CRES - 300 Series



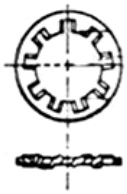
Steel MS35338	AN935	SIZE	Stainless MS35338
MS35338-39	-2	#2	MS35338-134
MS35338-40	-4	#4	MS35338-135
MS35338-41	-6	#6	MS35338-136
MS35338-42	-8	#8	MS35338-137
MS35338-43	-10	#10	MS35338-138
MS35338-44	-416	1/4	MS35338-139
MS35338-45	-516	5/16	MS35338-140
MS35338-46	-616	3/8	MS35338-141
MS35338-47	-716	7/16	MS35338-142
MS35338-48	-816	1/2	MS35338-143

Note: Sizes continue to 1-1/2 inch I.D.

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AN-MS-NAS Washers - Continued -

INTERNAL TOOTH LOCKWASHE Steel - Cadmium Plated per QQ-P-416, Type II, Class 2 **EXTERNAL TOOTH LOCKWASHER**
MS35333 or AN936A Corrosion Resistant Steel - 410H Stainless **MS35335 or AN936B**



MS35333 Steel	AN936A	MS35333 CRES	Screw or Bolt Size	MS35335 Steel	AN936B	MS35335 CRES
MS35333-35	2	MS35333-69	#2	-	-	-
MS35333-36	4	MS35333-70	#4	MS35335-29	4	MS35335-57
MS35333-37	6	MS35333-71	#6	MS35335-30	6	MS35335-58
MS35333-38	8	MS35333-72	#8	MS35335-31	8	MS35335-59
MS35333-39	10	MS35333-73	#10	MS35335-32	10	MS35335-60
MS35333-40	416	MS35333-74	1/4	MS35335-33	416	MS35335-61
MS35333-41	516	MS35333-75	5/16	MS35335-34	516	MS35335-62
MS35333-42	616	MS35333-76	3/8	MS35335-35	616	MS35335-63
MS35333-43	716	MS35333-77	7/16	MS35335-36	716	MS35335-64
MS35333-44	816	MS35333-78	1/2	MS35335-37	816	MS35335-65
Sizes continue to 1-1/4 inch I.D.				Sizes continue to 1 inch I.D.		

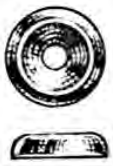


FINISHING WASHER

Countersunk

MS27129 NAS391 #601

Brass - Nickel Plated per QQ-N-290 or Chromium Plated per QQ-C-320
Stainless - 300 Series 18-8



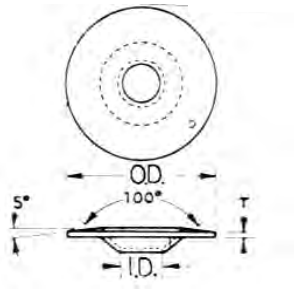
Flush

NAS390 #603

Brass - Nickel Plated per QQ-N-290 or Chromium Plated per QQ-C-320



MS27129 Brass	NAS391B Brass	#601 Brass	MS27129 Stainless	Screw Size	NAS390B Brass	#603 Brass
MS27129-1	4P	-4	**MS27129-3**	**#4**	NAS390B4P	-4
MS27129-4	6P	-6	**MS27129-6**	**#6**	NAS390B6P	-6
MS27129-7	8P	-8	**MS27129-9**	**#8**	NAS390B8P	-8
MS27129-10	10P	-10	**MS27129-12**	**#10**	NAS390B10P	-10



Note: Both washer types may be used with 82 or 100 degree countersunk screws.

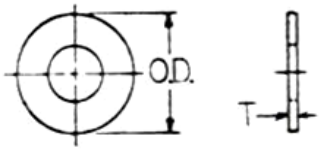
100 DEGREE DIMPLED (TINNERMAN) WASHER

Spring Steel - Heat Treated, Cadmium Plated
Stainless - 300 Series - High Luster Polished

Screw or Bolt Size	OD	ID	T	Steel PART#	TINNERMAN#	STAINLESS PART#	TINNERMAN#
#6	.50	.140-.147	.012	DP1075-12	A3235-012-24A	DP1075-12SS	
#8	.56	.171	.017	DP1080-17	A3134-017-24A	DP1080-17SS	A1334SS017-24A
#10	.75	.196	.020	DP1085-20	A3235-020-24A	DP1085-20SS	A3235SS020-24A
#10	.75	.196	.028	DP1085-28	A3235-028-24A	DP1085-28SS	A3235SS028-24A
1/4	.81	.255-.260	.020	DP1095-20	A3475-020-24A	DP1095-20SS	A3475SS020-24A
1/4	.81	.255-.260	.028	DP1095-28	A3475-028-24A	DP1095-28SS	A3475SS028-24A

NAS1515 NYLON WASHER 101 NYLON 6/6
NAS549 FIBER WASHER Insulating, Electrical MIL-F-1148-CH

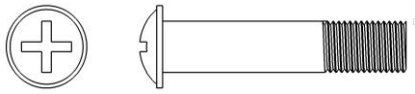
NAS1515	SIZE	ID	OD	T	NAS549
NAS1515-H-02L	**#2**	.105	.250	.031	NAS549FL3
NAS1515-H-02	**#2**	.105	.250	.063	NAS549F3
NAS1515-H-04L	**#4**	.125	.312	.031	NAS549FL4
NAS1515-H-04	**#4**	.125	.312	.063	NAS549F4
NAS1515-H-06L	**#6**	.149	.375	.031	NAS549FL6
NAS1515-H-06	**#6**	.149	.375	.063	NAS549F6
NAS1515-H-08L	**#8**	.174	.375	.031	NAS549FL8
NAS1515-H-08	**#8**	.174	.375	.063	NAS549F8
				.090	NAS549FH10
NAS1515-H-3L	**#10**	.203	.438	.031	NAS549FL10
NAS1515-H-3	**#10**	.203	.438	.063	NAS549F10
NAS1515-H-4L	**1/4**	.265	.500	.031	NAS549FL416
NAS1515-H-4	**1/4**	.265	.500	.063	NAS549F416
NAS1515-H-5L	**5/16**	.328	.562	.031	NAS549FL516
NAS1515-H-5	**5/16**	.328	.562	.063	NAS549F516
NAS1515-H-6L	**3/8**	.390	.625	.031	NAS549FL616
NAS1515-H-6	**3/8**	.390	.625	.063	NAS549F616



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WASHER HEAD MACHINE SCREW AN525

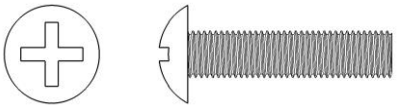
Steel - Cadmium Plated 125,000 PSI Tensile Strength
Stainless - Passivated 125,000 PSI
'R' Denotes Cross Recessed (Phillips) Head
Note: MS27039 is a direct replacement for AN525



AN525 Dash Numbers

Length	Grip	Thread #8-32	Thread #10-32	Thread 1/4-28
3/8	1/32	AN525-832R6	AN525-10R6	AN525-416R6
7/16	1/16	AN525-832R7	AN525-10R7	AN525-416R7
1/2	1/8	AN525-832R8	AN525-10R8	AN525-416R8
			AN525C10R8	
9/16	5/32	AN525-832R9	AN525-10R9	AN525-416R9
5/8	7/32	AN525-832R10	AN525-10R10	AN525-416R10
		AN525C832R10		
11/16	9/32	AN525-832R11	AN525-10R11	AN525-416R11
3/4	11/32	AN525-832R12	AN525-10R12	AN525-416R12
			AN525-10R13	
7/8	13/32	AN525-832R14	AN525-10R14	AN525-416R14
1	19/32	AN525-832R16	AN525-10R16	AN525-416R16
1-1/8	23/32	AN525-832R18	AN525-10R18	AN525-416R18
1-1/4	27/32	AN525-832R20	AN525-10R20	AN525-416R20
1-3/8	31/32	AN525-832R22	AN525-10R22	AN525-416R22
1-1/2	1-3/32	AN525-832R24	AN525-10R24	AN525-416R24
1-5/8	1-7/32	AN525-832R26	AN525-10R26	AN525-416R26
1-3/4	1-11/32	AN525-832R28	AN525-10R28	AN525-416R28
1-7/8	1-15/32	AN525-832R30	AN525-10R30	AN525-416R30
2	1-19/32	AN525-832R32	AN525-10R32	AN525-416R32

TRUSS HEAD MACHINE SCREW AN526



Steel - Cadmium Plated 55,000 PSI Tensile Strength
Stainless - 300 Series 18-8 Stainless
'R' Denotes Cross Recessed (Phillips) Head

AN526 Dash Numbers Standard Package 100

Length	Thread **#4-40**		Thread **#6-32**		Thread **#8-32**		Thread **#10-32**		Thread **1/4-28**
	Steel	**Stainless**	**Steel**	**Stainless**	**Steel**	**Stainless**	**Steel**	**Stainless**	**Steel**
1/4	AN526-440R4	AN526C440R4	AN526-632R4	AN526C632R4	AN526-832R4	AN526C832R4	AN526-1032R4	AN526C1032R4	
5/16	AN526-440R5	AN526C440R5	AN526-632R5	AN526C632R5	AN526-832R5	AN526C832R5	AN526-1032R5	AN526C1032R5	
3/8	AN526-440R6	AN526C440R6	AN526-632R6	AN526C632R6	AN526-832R6	AN526C832R6	AN526-1032R6	AN526C1032R6	AN526-428R6
7/16	AN526-440R7	AN526C440R7	AN526-632R7	AN526C632R7	AN526-832R7	AN526C832R7	AN526-1032R7	AN526C1032R7	AN526-428R7
1/2	AN526-440R8	AN526C440R8	AN526-632R8	AN526C632R8	AN526-832R8	AN526C832R8	AN526-1032R8	AN526C1032R8	AN526-428R8
9/16	AN526-440R9	AN526C440R9	AN526-632R9	AN526C632R9	AN526-832R9	AN526C832R9	AN526-1032R9	AN526C1032R9	AN526-428R9
5/8	AN526-440R10	AN526C440R10	AN526-632R10	AN526C632R10	AN526-832R10	AN526C832R10	AN526-1032R10	AN526C1032R10	AN526-428R10
3/4	AN526-440R12	AN526C440R12	AN526-632R12	AN526C632R12	AN526-832R12	AN526C832R12	AN526-1032R12	AN526C1032R12	AN526-428R12
7/8	AN526-440R14	AN526C440R14	AN526-632R14	AN526C632R14	AN526-832R14	AN526C832R14	AN526-1032R14	AN526C1032R14	AN526-428R14
1	AN526-440R16	AN526C440R16	AN526-632R16	AN526C632R16	AN526-832R16	AN526C832R16	AN526-1032R16	AN526C1032R16	AN526-428R16
1-1/8	AN526-440R18	AN526C440R18	AN526-632R18	AN526C632R18	AN526-832R18	AN526C832R18	AN526-1032R18	AN526C1032R18	AN526-428R18
1-1/4	AN526-440R20	AN526C440R20	AN526-632R20	AN526C632R20	AN526-832R20	AN526C832R20	AN526-1032R20	AN526C1032R20	AN526-428R20
1-3/8	AN526-440R22	AN526C440R22	AN526-632R22	AN526C632R22	AN526-832R22	AN526C832R22	AN526-1032R22	AN526C1032R22	AN526-428R22
1-1/2	AN526-440R24	AN526C440R24	AN526-632R24	AN526C632R24	AN526-832R24	AN526C832R24	AN526-1032R24	AN526C1032R24	AN526-428R24
1-5/8	AN526-440R26	AN526C440R26	AN526-632R26	AN526C632R26	AN526-832R26	AN526C832R26	AN526-1032R26	AN526C1032R26	AN526-428R26
1-3/4	AN526-440R28	AN526C440R28	AN526-632R28	AN526C632R28	AN526-832R28	AN526C832R28	AN526-1032R28	AN526C1032R28	AN526-428R28
1-7/8	AN526-440R30	AN526C440R30	AN526-632R30	AN526C632R30	AN526-832R30	AN526C832R30	AN526-1032R30	AN526C1032R30	AN526-428R30
2	AN526-440R32	AN526C440R32	AN526-632R32	AN526C632R32	AN526-832R32	AN526C832R32	AN526-1032R32	AN526C1032R32	AN526-428R32
2-1/4	AN526-440R36	AN526C440R36	AN526-632R36	AN526C632R36	AN526-832R36	AN526C832R36	AN526-1032R36	AN526C1032R36	AN526-428R36
2-1/2	AN526-440R40	AN526C440R40	AN526-632R40	AN526C632R40	AN526-832R40	AN526C832R40	AN526-1032R40	AN526C1032R40	AN526-428R40
2-3/4	AN526-440R44	AN526C440R44	AN526-632R44	AN526C632R44	AN526-832R44	AN526C832R44	AN526-1032R44	AN526C1032R44	AN526-428R44
3	AN526-440R48	AN526C440R48	AN526-632R48	AN526C632R48	AN526-832R48	AN526C832R48	AN526-1032R48	AN526-1032R48	AN526-428R48

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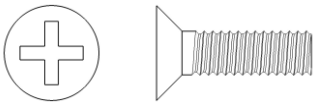
FLAT HEAD MACHINE SCREW (100 Degree) AN507 MS24693

Steel - Cadmium Plated 60,000 PSI Tensile Strength
Brass - Black Oxide Coating 55,000 PSI Tensile Strength
Stainless - 300 Series 18-8 Stainless 80,000 PSI Tensile Strength

SKYBOLT AEROMOTIVE CORP.

MS24693 Dash Numbers

Length	AN507 Thread #4-40	Steel	Stainless	AN507 Thread #6-32	Steel	Stainless
3/16	440R3	MS24693-S1	MS24693-C1	632R3	MS24693-S23	MS24693-C23
1/4	440R4	MS24693-S2	MS24693-C2	632R4	MS24693-S24	MS24693-C24
5/16	440R5	MS24693-S3	MS24693-C3	632R5	MS24693-S25	MS24693-C25
3/8	440R6	MS24693-S4	MS24693-C4	632R6	MS24693-S26	MS24693-C26
7/16	440R7	MS24693-S5	MS24693-C5	632R7	MS24693-S27	MS24693-C27
1/2	440R8	MS24693-S6	MS24693-C6	632R8	MS24693-S28	MS24693-C28
5/8	440R10	MS24693-S7	MS24693-C7	632R10	MS24693-S29	MS24693-C29
3/4	440R12	MS24693-S8	MS24693-C8	632R12	MS24693-S30	MS24693-C30
7/8	440R14	MS24693-S9	MS24693-C9	632R14	MS24693-S31	MS24693-C31
1	440R16	MS24693-S10	MS24693-C10	632R16	MS24693-S32	MS24693-C32
1-1/8	440R18	MS24693-S11	MS24693-C11	632R18	MS24693-S33	MS24693-C33
1-1/4	440R20	MS24693-S12	MS24693-C12	632R20	MS24693-S34	MS24693-C34
1-1/2	440R24	MS24693-S14	MS24693-C14	632R24	MS24693-S36	MS24693-C36
1-3/4				632R28	MS24693-S38	MS24693-C38
2				632R32	MS24693-S40	MS24693-C40
1-1/2				632R40	MS24693-S42	MS24693-C42

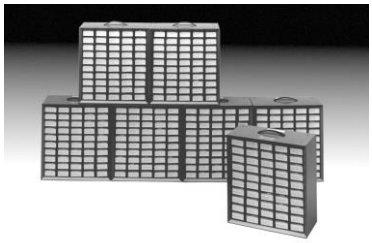


Length	AN507 Thread #8-32	Steel	Stainless	AN507 Thread #10-32	Steel	Stainless	AN507 Thread 1/4-28	Steel	Stainless
3/16									
1/4	832R4	MS24693-S46	MS24693-C46	1032R4	MS24693-S268	MS24693-C268			
5/16	832R5	MS24693-S47	MS24693-C47	1032R5	MS24693-S269	MS24693-C269			
3/8	832R6	MS24693-S48	MS24693-C48	1032R6	MS24693-S270	MS24693-C270	428R6	MS24693-S292	MS24693-C292
7/16	832R7	MS24693-S49	MS24693-C49	1032R7	MS24693-S271	MS24693-C271	428R7	MS24693-S293	MS24693-C293
1/2	832R8	MS24693-S50	MS24693-C50	1032R8	MS24693-S272	MS24693-C272	428R8	MS24693-S294	MS24693-C294
5/8	832R10	MS24693-S51	MS24693-C51	1032R10	MS24693-S273	MS24693-C273	428R10	MS24693-S295	MS24693-C295
3/4	832R12	MS24693-S52	MS24693-C52	1032R12	MS24693-S274	MS24693-C274	428R12	MS24693-S296	MS24693-C296
7/8	832R14	MS24693-S53	MS24693-C53	1032R14	MS24693-S275	MS24693-C275	428R14	MS24693-S297	MS24693-C297
1	832R16	MS24693-S54	MS24693-C54	1032R16	MS24693-S276	MS24693-C276	428R16	MS24693-S298	MS24693-C298
1-1/8	832R18	MS24693-S55	MS24693-C55	1032R18	MS24693-S277	MS24693-C277	428R18	MS24693-S299	MS24693-C299
1-1/4	832R20	MS24693-S56	MS24693-C56	1032R20	MS24693-S278	MS24693-C278	428R20	MS24693-S300	MS24693-C300
1-3/8				1032R22	MS24693-S279	MS24693-C279	428R22	MS24693-S301	MS24693-C301
1-1/2	832R24	MS24693-S58	MS24693-C58	1032R24	MS24693-S280	MS24693-C280	428R24	MS24693-S302	MS24693-C302
1-5/8				1032R26	MS24693-S281	MS24693-C281	428R26	MS24693-S303	MS24693-C303
1-3/4	832R28	MS24693-S60	MS24693-C60	1032R28	MS24693-S282	MS24693-C282	428R28	MS24693-S304	MS24693-C304
1-7/8				1032R30	MS24693-S283	MS24693-C283	428R30	MS24693-S305	MS24693-C305
2	832R32	MS24693-S62	MS24693-C62	1032R32	MS24693-S284	MS24693-C284	428R32	MS24693-S306	MS24693-C306
2-1/4				1032R36	MS24693-S285	MS24693-C285	428R36	MS24693-S307	MS24693-C307
2-1/2	832R40	MS24693-S64	MS24693-C64	1032R40	MS24693-S286	MS24693-C286	428R40	MS24693-S308	MS24693-C308
2-3/4				1032R44	MS24693-S287	MS24693-C287	428R44	MS24693-S309	MS24693-C309
3	832R48	MS34693-S66		1032R48	MS24693-S288	MS24693-C288	428R48	MS24693-S310	MS24693-C310

Example part numbers: MS24693-C49 = #8-32 Steel screw, 7/16" long. MS24693-BB30 = #6-32 Brass screw with black Oxide Coating, 3/4" long. (Refer to BRASS INSTRUMENT SCREW CHART for common brass screws). MS24693-C272 = #1032 CRES screw, 1/2" long.

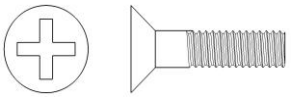
Stainless Assortment Kits

See Pages 155 thru 158



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FLAT HEAD MACHINE SCREW 100 Degree STRUCTURAL AN509 MS24694



Steel - Cadmium Plated 125,000 PSI Tensile Strength
Stainless - 300 Series Stainless 85,000 PSI Tensile Strength

Length	Grip	AN509 Thread #8-32	Steel	Stainless	Grip	AN509 Thread #10-32	Steel	Stainless
9/32	3/32	8R4	MS24694-S1	MS24694-C1	7/64	10R4	MS24694-S46	MS24694-C46
11/32	3/32	8R5	MS24694-S2	MS24694-C2	7/64	10R5	MS24694-S47	MS24694-C47
13/32	3/32	8R6	MS24694-S3	MS24694-C3	7/64	10R6	MS24694-S48	MS24694-C48
15/32	3/32	8R7	MS24694-S4	MS24694-C4	7/64	10R7	MS24694-S49	MS24694-C49
17/32	3/32	8R8	MS24694-S5	MS24694-C5	7/64	10R8	MS24694-S50	MS24694-C50
19/32	5/32	8R9	MS24694-S6	MS24694-C6	7/64	10R9	MS24694-S51	MS24694-C51
21/32	7/32	8R10	MS24694-S7	MS24694-C7	3/16	10R10	MS24694-S52	MS24694-C52
23/32	9/32	8R11	MS24694-S8	MS24694-C8	1/4	10R11	MS24694-S53	MS24694-C53
25/32	11/32	8R12	MS24694-S9	MS24694-C9	5/16	10R12	MS24694-S54	MS24694-C54
27/32	13/32	8R13	MS24694-S10	MS24694-C10	3/8	10R13	MS24694-S55	MS24694-C55
29/32	15/32	8R14	MS24694-S11	MS24694-C11	7/16	10R14	MS24694-S56	MS24694-C56
31/32	17/32	8R15	MS24694-S12	MS24694-C12	1/2	10R15	MS24694-S57	MS24694-C57
1-1/32	19/32	8R16	MS24694-S13	MS24694-C13	9/16	10R16	MS24694-S58	MS24694-C58
1-3/32	21/32	8R17	MS24694-S14	MS24694-C14	5/8	10R17	MS24694-S59	MS24694-C59
1-5/32	23/32	8R18	MS24694-S15	MS24694-C15	11/16	10R18	MS24694-S60	MS24694-C60
1-7/32	25/32	8R19	MS24694-S16	MS24694-C16	3/4	10R19	MS24694-S61	MS24694-C61
1-9/32	27/32	8R20	MS24694-S17	MS24694-C17	13/16	10R20	MS24694-S62	MS24694-C62
1-11/32	29/32	8R21	MS24694-S18	MS24694-C18	7/8	10R21	MS24694-S63	MS24694-C63
1-13/32	31/32	8R22	MS24694-S19	MS24694-C19	15/16	10R22	MS24694-S64	MS24694-C64
1-15/32	1-1/32	8R23	MS24694-S20	MS24694-C20	1	10R23	MS24694-S65	MS24694-C65
1-17/32	1-3/32	8R24	MS24694-S21	MS24694-C21	1-1/16	10R24	MS24694-S66	MS24694-C66
1-19/32	1-5/32	8R25	MS24694-S22	MS24694-C22	1-1/8	10R25	MS24694-S67	MS24694-C67
1-21/32	1-7/32	8R26	MS24694-S23	MS24694-C23	1-3/16	10R26	MS24694-S68	MS24694-C68
1-23/32	1-9/32	8R27	MS24694-S24	MS24694-C24	1-1/4	10R27	MS24694-S69	MS24694-C69
1-25/32	1-11/32	8R28	MS24694-S25	MS24694-C25	1-5/16	10R28	MS24694-S70	MS24694-C70
1-27/32	1-13/32	8R29	MS24694-S26	MS24694-C26	1-3/8	10R29	MS24694-S71	MS24694-C71
1-29/32	1-15/32	8R30	MS24694-S27	MS24694-C27	1-7/16	10R30	MS24694-S72	MS24694-C72

Example part numbers: MS24694-S24 = Steel screw, 1-23/32 long. MS24694-C65 = CRES screw, 1-15/32" long.

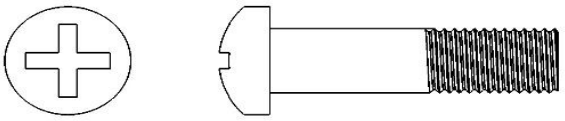
Grip	AN509 Thread 1/4-28	Steel	Stainless
9/64	416R5	MS24694-S92	MS24694-C92
9/64	416R6	MS24694-S93	MS24694-C93
9/64	416R7	MS24694-S94	MS24694-C94
9/64	416R8	MS24694-S95	MS24694-C95
9/64	416R9	MS24694-S96	MS24694-C96
9/64	416R10	MS24694-S97	MS24694-C97
3/16	416R11	MS24694-S98	MS24694-C98
1/4	416R12	MS24694-S99	MS24694-C99
5/16	416R13	MS24694-S100	MS24694-C100
3/8	416R14	MS24694-S101	MS24694-C101
7/16	416R15	MS24694-S102	MS24694-C102
1/2	416R16	MS24694-S103	MS24694-C103
9/16	416R17	MS24694-S104	MS24694-C104
5/8	416R18	MS24694-S105	MS24694-C105
11/16	416R19	MS24694-S106	MS24694-C106
3/4	416R20	MS24694-S107	MS24694-C107
13/16	416R21	MS24694-S108	MS24694-C108
7/8	416R22	MS24694-S109	MS24694-C109
15/16	416R23	MS24694-S110	MS24694-C110
1	416R24	MS24694-S111	MS24694-C111
1-1/16	416R25	MS24694-S112	MS24694-C112
1-1/8	416R26	MS24694-S113	MS24694-C113
1-3/16	416R27	MS24694-S114	MS24694-C114
1-1/4	416R28	MS24694-S115	MS24694-C115
1-5/16	416R29	MS24694-S116	MS24694-C116
1-3/8	416R30	MS24694-S117	MS24694-C117

Note: When substituting AN509 (MS24694) steel screws with stainless, beware of reduction in tensile strength as noted.

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PAN HEAD MACHINE SCREW
STRUCTURAL MS27039

Steel - Cadmium plated 125,000 PSI Tensile Strength
Stainless - A286 Stainless 125,000 PSI Tensile Strength



MS27039 Dash Numbers - Steel

Length	Grip	MS27039 #8-32	Grip	MS27039 #10-32	Grip	MS27039 1/4-28	Grip	MS27039 5/16-24
.281	.032	MS27039-S0804	.032	MS27039-S1-04	.032	MS27039-S4-04	.032	MS27039-S5-04
.344	.032	MS27039-S0805	.032	MS27039-S1-05	.032	MS27039-S4-05	.032	MS27039-S5-05
.406	.032	MS27039-S0806	.032	MS27039-S1-06	.032	MS27039-S4-06	.032	MS27039-S5-06
.469	.032	MS27039-S0807	.032	MS27039-S1-07	.032	MS27039-S4-07	.032	MS27039-S5-07
.531	.094	MS27039-S0808	.062	MS27039-S1-08	.032	MS27039-S4-08	.032	MS27039-S5-08
.594	.156	MS27039-S0809	.125	MS27039-S1-09	.062	MS27039-S4-09	.062	MS27039-S5-09
.656	.219	MS27039-S0810	.188	MS27039-S1-10	.125	MS27039-S4-10	.094	MS27039-S5-10
.719	.281	MS27039-S0811	.250	MS27039-S1-11	.188	MS27039-S4-11	.156	MS27039-S5-11
.781	.344	MS27039-S0812	.312	MS27039-S1-12	.250	MS27039-S4-12	.219	MS27039-S5-12
.844	.406	MS27039-S0813	.375	MS27039-S1-13	.312	MS27039-S4-13	.281	MS27039-S5-13
.906	.469	MS27039-S0814	.438	MS27039-S1-14	.375	MS27039-S4-14	.344	MS27039-S5-14
.969	.531	MS27039-S0815	.500	MS27039-S1-15	.438	MS27039-S4-15	.406	MS27039-S5-15
1.031	.594	MS27039-S0816	.563	MS27039-S1-16	.500	MS27039-S4-16	.469	MS27039-S5-16
1.094	.656	MS27039-S0817	.625	MS27039-S1-17	.563	MS27039-S4-17	.531	MS27039-S5-17
1.156	.719	MS27039-S0818	.688	MS27039-S1-18	.625	MS27039-S4-18	.594	MS27039-S5-18
1.219	.781	MS27039-S0819	.750	MS27039-S1-19	.688	MS27039-S4-19	.656	MS27039-S5-19
1.281	.844	MS27039-S0820	.813	MS27039-S1-20	.750	MS27039-S4-20	.719	MS27039-S5-20
1.405	.970	MS27039-S0822	.938	MS27039-S1-22	.875	MS27039-S4-22	.844	MS27039-S5-22
1.469	1.031	MS27039-S0823	1.000	MS27039-S1-23	.938	MS27039-S4-23	.906	MS27039-S5-23
1.531	1.094	MS27039-S0824	1.062	MS27039-S1-24	1.000	MS27039-S4-24	.969	MS27039-S5-24
1.844	1.406		1.375	MS27039-S1-29				

Lengths continue to -0838 (2.406"), -1-48 (3.031"), -4-48 (3.031"), and sizes to 1/2-20.

MS27039 Dash Numbers - Stainless

Length	Grip	MS27039 #8-32	Grip	MS27039 #10-32	Grip	MS27039 1/4-28	Grip	MS27039 5/16-24
.281	.032	MS27039-C0804	.032	MS27039-C1-04	.032	MS27039-C4-04	.032	MS27039-C5-04
.344	.032	MS27039-C0805	.032	MS27039-C1-05	.032	MS27039-C4-05	.032	MS27039-C5-05
.406	.032	MS27039-C0806	.032	MS27039-C1-06	.032	MS27039-C4-06	.032	MS27039-C5-06
.469	.032	MS27039-C0807	.032	MS27039-C1-07	.032	MS27039-C4-07	.032	MS27039-C5-07
.531	.094	MS27039-C0808	.062	MS27039-C1-08	.032	MS27039-C4-08	.032	MS27039-C5-08
.594	.156	MS27039-C0809	.125	MS27039-C1-09	.062	MS27039-C4-09	.062	MS27039-C5-09
.656	.219	MS27039-C0810	.188	MS27039-C1-10	.125	MS27039-C4-10	.094	MS27039-C5-10
.719	.281	MS27039-C0811	.250	MS27039-C1-11	.188	MS27039-C4-11	.156	MS27039-C5-11
.781	.344	MS27039-C0812	.312	MS27039-C1-12	.250	MS27039-C4-12	.219	MS27039-C5-12
.844	.406	MS27039-C0813	.375	MS27039-C1-13	.312	MS27039-C4-13	.281	MS27039-C5-13
.906	.469	MS27039-C0814	.438	MS27039-C1-14	.375	MS27039-C4-14	.344	MS27039-C5-14
.969	.531	MS27039-C0815	.500	MS27039-C1-15	.438	MS27039-C4-15	.406	MS27039-C5-15
1.031	.594	MS27039-C0816	.563	MS27039-C1-16	.500	MS27039-C4-16	.469	MS27039-C5-16
1.094	.656	MS27039-C0817	.625	MS27039-C1-17	.563	MS27039-C4-17	.531	MS27039-C5-17
1.156	.719	MS27039-C0818	.688	MS27039-C1-18	.625	MS27039-C4-18	.594	MS27039-C5-18
1.219	.781	MS27039-C0819	.750	MS27039-C1-19	.688	MS27039-C4-19	.656	MS27039-C5-19
1.281	.844	MS27039-C0820	.813	MS27039-C1-20	.750	MS27039-C4-20	.719	MS27039-C5-20
1.405	.970	MS27039-C0822	.938	MS27039-C1-22	.875	MS27039-C4-22	.844	MS27039-C5-22
1.469	1.031	MS27039-C0823	1.000	MS27039-C1-23	.938	MS27039-C4-23	.906	MS27039-C5-23
1.531	1.094	MS27039-C0824	1.062	MS27039-C1-24	1.000	MS27039-C4-24	.969	MS27039-C5-24
1.844	1.406		1.375	MS27039-C1-29				

Lengths continue to -0838 (2.406"), -1-48 (3.031"), -4-48 (3.031"), and sizes to 1/2-20.

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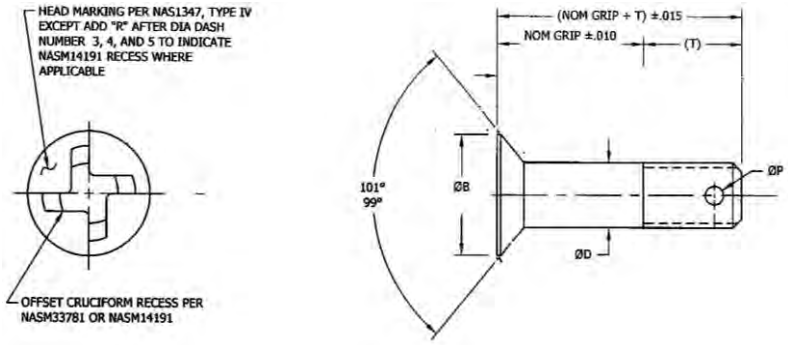
Some Part#s Special Order Only

NAS1580 and NAS1581 Close Tolerance Structural Screw

Stainless - A286 Series Stainless 180,000 PSI Tensile Strength

Crucifrom® Head

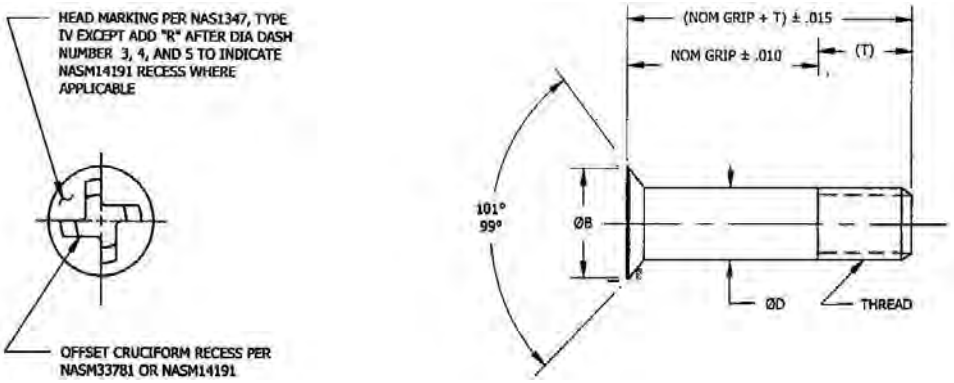
NAS1580



Drilled Shank Opional

Part Number	Description - Head Diameter ØB	Thread-Length	Nom Grip
NAS1580C3T2	High Strength,CRES, Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .487	Grip .125
NAS1580C3T3	High Strength, CRES,Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .549	Grip .187
NAS1580C3T4	High Strength,CRES, Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .613	Grip .250
NAS1580C3T5	High Strength, CRES,Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .675	Grip .312
NAS1580C3T6	High Strength, CRES,Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .738	Grip .375
NAS1580C3T7	High Strength, CRES,Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .801	Grip .438
NAS1580C3T8	High Strength, CRES,Close Tolerance Shear, Standard (Tensile) Head .339	10-32 - Length .863	Grip .500

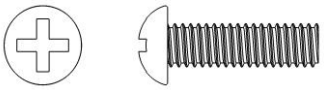
NAS1581



Part Number	Description - Head Diameter ØB	Thread-Length	Nom Grip
NAS1581C3T2	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .487	Grip .125
NAS1581C3T3	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .549	Grip .187
NAS1581C3T4	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .613	Grip .250
NAS1581C3T5	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .675	Grip .312
NAS1581C3T6	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .738	Grip .375
NAS1581C3T7	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .801	Grip .438
NAS1581C3T8	High Strength, CRES,Close Tolerance, Reduced (Shear) Head .257	10-32 - Length .863	Grip .500

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PAN HEAD MACHINE SCREW - NonStructural



MS35206 AN515 Course STEEL (60,000 **MS51957** 300 Series STAINLESS (80,000 PSI)
MS35207 AN520 Fine STEEL (60,00 **MS51958** 300 Series STAINLESS (80,000 PSI)

MS35206 Dash Numbers

Length	AN515 Thread #2-56	MS35206	AN515 Thread #4-40	STEEL MS35206	AN515 Thread #6-32	STEEL MS35206	MS51957	AN515 Thread #8-32	STEEL MS35206	CRES MS51957
1/8	-2R2	MS35206-201				MS35206-224				
3/16	-2R3	MS35206-202	-4R3	MS35206-212	-6R3	MS35206-225				
1/4	-2R4	MS35206-203	-4R4	MS35206-213	-6R4	MS35206-226	MS51957-26	-8R4	MS35206-241	
5/16	-2R5	MS35206-204	-4R5	MS35206-214	-6R5	MS35206-227		-8R5	MS35206-242	
3/8	-2R6	MS35206-205	-4R6	MS35206-215	-6R6	MS35206-228	MS51957-28	-8R6	MS35206-243	MS51957-43
7/16	-2R7	MS35206-206	-4R7	MS35206-216	-6R7	MS35206-229		-8R7	MS35206-244	MS51957-44
1/2	-2R8	MS35206-207	-4R8	MS35206-217	-6R8	MS35206-230	MS51957-30	-8R8	MS35206-245	MS51957-45
9/16		MS35206-320		MS35206-323		MS35206-327			MS35206-331	
5/8	-2R10	MS35206-208	-4R10	MS35206-218	-6R10	MS35206-231	MS51957-31	-8R10	MS35206-246	MS51957-46
3/4	-2R12	MS35206-209	-4R12	MS35206-219	-6R12	MS35206-232		-8R12	MS35206-247	
7/8		MS35206-210	-4R14	MS35206-220	-6R14	MS35206-233		-8R14	MS35206-248	MS51957-48
1		MS35206-321	-4R16	MS35206-221	-6R16	MS35206-234		-8R16	MS35206-249	
1-1/8			-4R18	MS35206-324	-6R18	MS35206-328		-8R18	MS35206-332	
1-1/4			-4R20	MS35206-222	-6R20	MS35206-235		-8R20	MS35206-250	
1-3/8			-4R22	MS35206-325	-6R22	MS35206-329		-8R22	MS35206-333	
1-1/2			-4R24	MS35206-223	-6R24	MS35206-236		-8R24	MS35206-251	MS51957-51
1-3/4			-4R28	MS35206-326	-6R28	MS35206-237		-8R28	MS35206-252	
1-7/8					-6R30	MS35206-361		-8R30	MS35206-334	
2					-6R32	MS35206-238		-8R32	MS35206-253	
2-1/4					-6R36	MS35206-330		-8R36	MS35206-254	
2-1/2								-8R40	MS35206-255	
2-3/4								-8R44	MS35206-256	
3								-8R48	MS35206-257	

MS35207 Dash Numbers

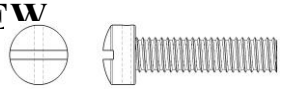
Length	AN520 Thread #10-32	MS35207	MS51958	AN520 Thread 1/4-28	MS35207	MS51958
1/4	-10R4	MS35207-259				
5/16	-10R5	MS35207-260				
3/8	-10R6	MS35207-261		-416R6	MS35207-277	
7/16	-10R7	MS35207-262		-416R7	MS35207-278	MS51958-78
1/2	-10R8	MS35207-263	MS51958-63	-416R8	MS35207-279	MS51958-79
5/8	-10R10	MS35207-264	MS51958-64	-416R10	MS35207-280	
3/4	-10R12	MS35207-265		-416R12	MS35207-281	
7/8	-10R14	MS35207-266		-416R14	MS35207-282	
1	-10R16	MS35207-267		-416R16	MS35207-283	
1-1/4	-10R20	MS35207-268		-416R20	MS35207-284	
1-1/2	-10R24	MS35207-269		-416R24	MS35207-285	
1-3/4	-10R28	MS35207-270		-416R28	MS35207-286	
2	-10R32	MS35207-271		-416R32	MS35207-287	
2-1/4	-10R36	MS35207-272		-416R36	MS35207-288	
2-1/2	-10R40	MS35207-273		-416R40	MS35207-289	
2-3/4	-10R44	MS35207-274		-416R44	MS35207-290	
3	-10R48	MS35207-275		-416R48	MS35207-291	

COMMON THREAD SIZES

Bolt or Screw Size	Diameter	Course Thread	Fine (SAE) Thread	Bolt or Screw Size	Diameter	Course Thread	Fine (SAE) Thread
#0	.060	-	80	#10(3/16)	.190	24	32
#1	.073	64	72	1/4	.250	20	28
#2	.086	56	64	5/16	.3125	18	24
#4	.112	40	48	3/8	.375	16	24
#6	.138	32	40	7/16	.4375	14	20
#8	.164	32	36	1/2	.500	13	20

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DRILLED FILLISTER HEAD MACHINE SCREW
MS35265 (AN500) MS35266 (AN501)



Steel - Cadmium Plated 60,000 PSI Tensile Strength

MS35265 Dash Numbers

Length	AN500 Thread #2-56	MS35265	AN500 Thread #4-40	MS35265	AN500 Thread #6-32	MS36265	AN500 Thread #8-32	MS35265
.12		MS35265-1		MS35265-11		MS35265-24		MS35265-39
.19	A2-3	MS35265-2	A4-3	MS35265-12	A6-3	MS35265-25		MS35265-40
.25	A2-4	MS35265-3	A4-4	MS35265-13	A6-4	MS35265-26	A8-4	MS35265-41
.31	A2-5	MS35265-4	A4-5	MS35265-14	A6-5	MS35265-27	A8-5	MS35265-42
.38	A2-6	MS35265-5	A4-6	MS35265-15	A6-6	MS35265-28	A8-6	MS35265-43
.44	A2-7	MS35265-6	A4-7	MS35265-16	A6-7	MS35265-29	A8-7	MS35265-44
.50	A2-8	MS35265-7	A4-8	MS35265-17	A6-8	MS35265-30	A8-8	MS35265-45
.62	A2-10	MS35265-8	A4-10	MS35265-18	A6-10	MS35265-31	A8-10	MS35265-46
.75	A2-12	MS35265-9	A4-12	MS35265-19	A6-12	MS35265-32	A8-12	MS35265-47
.88		MS35265-10		MS35265-20	A6-14	MS35265-33	A8-14	MS35265-48
1.00				MS35265-21	A6-16	MS35265-34	A8-16	MS35265-49
1.25				MS35265-22	A6-20	MS35265-35	A8-20	MS35265-50
1.50				MS35265-23	A6-24	MS35265-36	A8-24	MS35265-51
1.75					A6-28	MS35265-37	A8-28	MS35265-52
2.00					A6-32	MS35265-38	A8-32	MS35265-54

MS35265 Dash Numbers **MS35266 Dash Numbers**

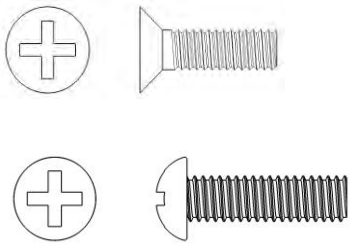
Length	AN500 Thread #10-24	MS35265	AN500 Thread 1/4-20	MS35265	AN501 Thread #10-32	MS35266	AN501 Thread 1/4-28	MS35266
.19		MS35265-58				MS35266-58		
.25	A10-4	MS35265-59			A10-4	MS35266-59		
.31	A10-5	MS35265-60		MS35265-76	A10-5	MS35266-60	A416-5	MS35266-76
.38	A10-6	MS35265-61	A416-6	MS35265-77	A10-6	MS35266-61	A416-6	MS35266-77
.44	A10-7	MS35265-62	A416-7	MS35265-78	A10-7	MS35266-62	A416-7	MS35266-78
.50	A10-8	MS35265-63	A416-8	MS35265-79	A10-8	MS35266-63	A416-8	MS35266-79
.62	A10-10	MS35265-64	A416-10	MS35265-80	A10-10	MS35266-64	A416-10	MS35266-80
.75	A10-12	MS35265-65	A416-12	MS35265-81	A10-12	MS35266-65	A416-12	MS35266-81
.88	A10-14	MS35265-66	A416-14	MS35265-82	A10-14	MS35266-66	A416-14	MS35266-82
1.00	A10-16	MS35265-67	A416-16	MS35265-83	A10-16	MS35266-67	A416-16	MS35266-83
1.25	A10-20	MS35265-68	A416-20	MS35265-84	A10-20	MS35266-68	A416-20	MS35266-84
1.50	A10-24	MS35265-69	A416-24	MS35265-85	A10-24	MS35266-69	A416-24	MS35266-85
1.75	A10-28	MS35265-70	A416-28	MS35265-86	A10-28	MS35266-70	A416-28	MS35266-86
2.00	A10-32	MS35265-71	A416-32	MS35265-87	A10-32	MS35266-71	A416-32	MS35266-87
2.25		MS35265-72		MS35265-88		MS35266-72		MS35266-88
2.50	A10-40	MS35265-73	A416-40	MS35265-89	A10-40	MS35266-73	A416-40	MS35266-89
3.75		MS35265-74		MS35265-90		MS35266-74		MS35266-90
3.00	A10-48	MS35265-75	A416-48	MS35265-91	A10-48	MS35266-75	A416-48	MS35266-91

BRASS INSTRUMENT SCREWS MS24693 MS35214 MS35215

Brass per QQ-W-321, QQ-B-613, or QQ-B-626: Black Oxide Coating
55,000 PSI Tensile Strength

FLAT HEAD Phillips PAN HEAD Phillips

MS24693BB	AN507B	Size	Length	MS35214	Size	Length
MS24693BB6	440R8	#4-40	1/2	MS35214-16	#4-40	1/2
MS24693BB10	440R16	#4-40	1	MS35214-23	#6-32	3/4
MS24693BB24	632R4	#6-32	1/4	MS35214-25	#6-32	3/8
MS24693BB26	632R6	#6-32	3/8	MS35214-26	#6-32	7/16
MS24693BB28	632R8	#6-32	1/2	MS35214-27	#6-32	1/2
MS24693BB29	632R10	#6-32	5/8	MS35214-28	#6-32	5/8
MS24693BB30	632R12	#6-32	3/4	MS35214-29	#6-32	3/4
MS24693BB31	632R14	#6-32	7/8	MS35214-30	#6-32	7/8
MS24693BB32	632R16	#6-32	1	MS35214-31	#6-32	1
MS24693BB34	632R20	#6-32	1-1/4	MS35214-32	#6-32	1-1/4
MS24693BB36	632R24	#6-32	1-1/2	MS35214-33	#6-32	1-1/2
MS24693BB50	832R8	#8-32	1/2	MS35214-42	#8-32	1/2
MS24693BB51	832R10	#8-32	5/8	MS35214-46	#8-32	1
MS24693BB52	832R12	#8-32	3/4	MS35214-47	#8-32	1-1/4
MS24693BB54	832R16	#8-32	1	MS35214-48	#8-32	1-1/2
MS24693BB56	832R20	#8-32	1-1/4			
MS24693BB58	832R24	#8-32	1-1/2	MS35215-55	#1032	1/2
MS24693BB272	1032R8	#10-32	1/2	MS35215-56	#1032	5/8
MS24693BB273	1032R10	#10-32	5/8	MS35215-57	#1032	3/4
MS24693BB274	1032R12	#10-32	3/4	MS35215-59	#1032	1
MS24693BB276	1032R16	#1032	1	MS35215-60	#1032	1-1/4

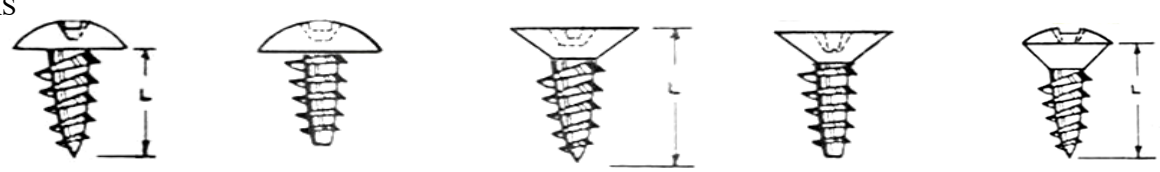


Note: Several additional MS24693BB and MS35214 sizes in stock

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SHEET METAL SCREWS (PK) Self Tapping
Type A and Type B

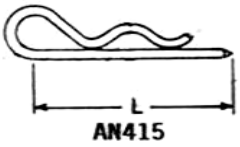
Use Type A screws for wood applications. Use B screws for sheet metal applications and Tinnerman nuts.
Note pitch difference between Type A and B screws. Add S to part# for all 300 series stainless screws.
Example: 8RX1/2THAS

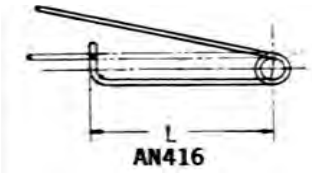


		TRUSS HEAD Type A		TRUSS HEAD AN530 Type B		FLAT HEAD A	FLAT HEAD B MS21207		OVAL HEAD
		THA	THAS	THB	THBS	FHAS 100deg	NAS548P 100deg	FHBS 100deg	OHAS 82deg
SIZE	Length	Steel	Stainless	Steel	Stainless	Stainless	Steel	Stainless	Stainless
#4	1/4	4RX1/4THA	4RX1/4THAS	4RX1/4THB	4RX1/4THBS	4RX1/4FHAS100	MS21207-4-4	4RX1/4FHBS100	4RX1/4OHAS
#4	3/8	4RX3/8THA	4RX3/8THAS	4RX3/8THB	4RX3/8THBS	4RX3/8FHAS100	MS21207-4-6	4RX3/8FHBS100	4RX3/8OHAS
#4	1/2	4RX1/2THA	4RX1/2THAS	4RX1/2THB	4RX1/2THBS	4RX1/2FHAS100	MS21207-4-8	4RX1/2FHBS100	4RX1/2OHAS
#4	5/8	4RX5/8THA	4RX5/8THAS	4RX5/8THB	4RX5/8THBS	4RX5/8FHAS100	MS21207-4-10	4RX5/8FHBS100	4RX5/8OHAS
#6	3/8	6RX3/8THA	6RX3/8THAS	6RX3/8THB	6RX3/8THBS	6RX3/8FHAS100	MS21207-6-6	6RX3/8FHBS100	6RX3/8OHAS
#6	1/2	6RX1/2THA	6RX1/2THAS	6RX1/2THB	6RX1/2THBS	6RX1/2FHAS100	MS21207-6-8	6RX1/2FHBS100	6RX1/2OHAS
#6	5/8	6RX5/8THA	6RX5/8THAS	6RX5/8THB	6RX5/8THBS	6RX5/8FHAS100	MS21207-6-10	6RX5/8FHBS100	6RX5/8OHAS
#6	3/4	6RX3/4THA	6RX3/4THAS	6RX3/4THB	6RX3/4THBS	6RX3/4FHAS100	MS21207-6-12	6RX3/4FHBS100	6RX3/4OHAS
#6	1	6RX1THA	6RX1THAS	6RX1THB	6RX1THBS	6RX1FHAS100	MS21207-6-16	6RX1FHBS100	6RX1OHAS
#6	1-1/2	6RX1-1/2THA	6RX1-1/2THAS	6RX1-1/2THB	6RX1-1/2THBS	6RX1-1/2FHAS100	MS21207-6-24	6RX1-1/2FHBS100	6RX1-1/2OHAS
#8	3/8	8RX3/8THA	8RX3/8THAS	8RX3/8THB	8RX3/8THBS	8RX3/8FHAS100	MS21207-8-6	8RX3/8FHBS100	8RX3/8OHAS
#8	1/2	8RX1/2THA	8RX1/2THAS	8RX1/2THB	8RX1/2THBS	8RX1/2FHAS100	MS21207-8-8	8RX1/2FHBS100	8RX1/2OHAS
#8	5/8	8RX5/8THA	8RX5/8THAS	8RX5/8THB	8RX5/8THBS	8RX5/8FHAS100	MS21207-8-10	8RX5/8FHBS100	8RX5/8OHAS
#8	3/4	8RX3/4THA	8RX3/4THAS	8RX3/4THB	8RX3/4THBS	8RX3/4FHAS100	MS21207-8-12	8RX3/4FHBS100	8RX3/4OHAS
#8	1	8RX1THA	8RX1THAS	8RX1THB	8RX1THBS	8RX1FHAS100	MS21207-8-16	8RX1FHBS100	8RX1OHAS
#8	1-1/4	8RX1-1/4THA	8RX1-1/4THAS	8RX1-1/4THB	8RX1-1/4THBS	8RX1-1/4FHAS100		8RX1-1/4FHBS100	8RX1-1/4OHAS
#8	1-1/2	8RX1-1/2THA	8RX1-1/2THAS	8RX1-1/2THB	8RX1-1/2THBS	8RX1-1/2FHAS100	MS21207-8-24	8RX1-1/2FHBS100	8RX1-1/2OHAS
#8	1-3/4	8RX1-3/4THA	8RX1-3/4THAS	8RX1-3/4THB	8RX1-3/4THBS	8RX1-3/4FHAS100	MS21207-8-28	8RX1-3/4FHBS100	8RX1-3/4OHAS
#8	2	8RX2THA	8RX2THAS	8RX2THB	8RX2THBS	8RX2FHAS100	MS21207-8-32	8RX2FHBS100	8RX2OHAS
#10	1/2	10RX1/2THA	10RX1/2THAS	10RX1/2THB	10RX1/2THBS	10RX1/2FHAS100	MS21207-10-8	10RX1/2FHBS100	10RX1/2OHAS
#10	5/8	10RX5/8THA	10RX5/8THAS	10RX5/8THB	10RX5/8THBS	10RX5/8FHAS100	MS21207-10-10	10RX5/8FHBS100	10RX5/8OHAS
#10	3/4	10RX3/4THA	10RX3/4THAS	10RX3/4THB	10RX3/4THBS	10RX3/4FHAS100	MS21207-10-12	10RX3/4FHBS100	10RX3/4OHAS
#10	1	10RX1THA	10RX1THAS	10RX1THB	10RX1THBS	10RX1FHAS100	MS21207-10-16	10RX1FHBS100	10RX1OHAS
#10	1-1/2	10RX1-1/2THA	10RX1-1/2THAS	10RX1-1/2THB	10RX1-1/2THBS	10RX1-1/2FHAS100	MS21207-10-24	10RX1-1/2FHBS100	10RX1-1/2OHAS
#10	1-3/4	10RX1-3/4THA	10RX1-3/4THAS	10RX1-3/4THB	10RX1-3/4THBS	10RX1-3/4FHAS100	MS21207-10-28	10RX1-3/4FHBS100	10RX1-3/4OHAS
#10	2	10RX2THA	10RX2THAS	10RX2THB	10RX2THBS	10RX2FHAS100	MS21207-10-32	10RX2FHBS100	10RX2OHAS
1/4	5/8	12RX5/8THA	12RX5/8THAS	12RX5/8THB	12RX5/8THBS	12RX5/8FHAS100	MS21207-14-10	12RX5/8FHBS100	12RX5/8OHAS
1/4	3/4	12RX3/4THA	12RX3/4THAS	12RX3/4THB	12RX3/4THBS	12RX3/4FHAS100	MS21207-14-12	12RX3/4FHBS100	12RX3/4OHAS
1/4	1	12RX1THA	12RX1THAS	12RX1THB	12RX1THBS	12RX1FHAS100	MS21207-14-16	12RX1FHBS100	12RX1OHAS

NOTE: *Use in place of AN531 82 degree screws. When ordering SMS (sheet metal screws) indicate alternate lengths acceptable. Also indicate if stainless screws are acceptable as a substitute for steel screws.

LOCKING PINS





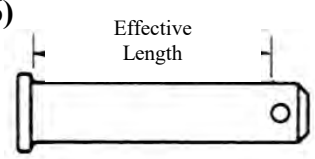


Part#	Wire Dia	Material	L
AN415-2	.080	CRES	1-15/16
AN415-3	.0295	CRES	19/32
AN416-1	.051	Steel	1-1/16
AN416-2	.041	Steel	3/4
WW11	.125	Steel	2-9/16
WW16	.125	Steel	1-15/16

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CLEVIS PIN MS20392 (AN392 thru AN396)

Also Supercedes AN400, AN404, and AN406
Steel Alloy - 4037, 4130, or 8630 - Cadmium Plated.
CRES - PH13-8Mo, Passivated and Crome Plated.
Titanium - Alloy, TI-6AL-4V.

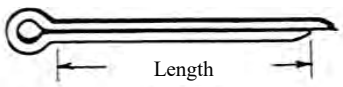


Effective Length	1/8 (.125) Diameter Steel AN392	MS20392	3/16 (.188) Diameter AN393	MS20392	1/4 (.250) Diameter AN394	MS20392
7/32	-7	MS20392-1C7	-7	MS20392-2C7		
9/32	-9	MS20392-1C9	-9	MS20392-2C9		
11/32	-11	MS20392-1C11	-11	MS20392-2C11	-11	MS20392-3C11
13/32	-13	MS20392-1C13	-13	MS20392-2C13	-13	MS20392-3C13
15/32	-15	MS20392-1C15	-15	MS20392-2C15	-15	MS20392-3C15
17/32	-17	MS20392-1C17	-17	MS20392-2C17	-17	MS20392-3C17
19/32	-19	MS20392-1C19	-19	MS20392-2C19	-19	MS20392-3C19
21/32	-21	MS20392-1C21	-21	MS20392-2C21	-21	MS20392-3C21
23/32	-23	MS20392-1C23	-23	MS20392-2C23	-23	MS20392-3C23
25/32	-25	MS20392-1C25	-25	MS20392-2C25	-25	MS20392-3C25
27/32	-27	MS20392-1C27	-27	MS20392-2C27	-27	MS20392-3C27
29/32	-29	MS20392-1C29	-29	MS20392-2C29	-29	MS20392-3C29
31/32	-31	MS20392-1C31	-31	MS20392-2C31	-31	MS20392-3C31
1-1/32	-33	MS20392-1C33	-33	MS20392-2C33	-33	MS20392-3C33
1-3/32	-35	MS20392-1C35	-35	MS20392-2C35	-35	MS20392-3C35
1-5/32	-37	MS20392-1C37	-37	MS20392-2C37	-37	MS20392-3C37
1-7/32	-39	MS20392-1C39	-39	MS20392-2C39	-39	MS20392-3C39
1-9/32	-41	MS20392-1C41	-41	MS20392-2C41	-41	MS20392-3C41
1-11/32	-43	MS20392-1C43	-43	MS20392-2C43	-43	MS20392-3C43
1-13/32	-45	MS20392-1C45	-45	MS20392-2C45	-45	MS20392-3C45
1-15/32	-47	MS20392-1C47	-47	MS20392-2C47	-47	MS20392-3C47
1-17/32	-49	MS20392-1C49	-49	MS20392-2C49	-49	MS20392-3C49
1-19/32	-51	MS20392-1C51	-51	MS20392-2C51	-51	MS20392-3C51
1-21/32	-53	MS20392-1C53	-53	MS20392-2C53	-53	MS20392-3C53
1-23/32	-55	MS20392-1C55	-55	MS20392-2C55	-55	MS20392-3C55
1-25/32	-57	MS20392-1C57	-57	MS20392-2C57	-57	MS20392-3C57
1-27/32	-59	MS20392-1C59	-59	MS20392-2C59	-59	MS20392-3C59
1-29/32	-61	MS20392-1C61	-61	MS20392-2C61	-61	MS20392-3C61
1-31/32	-63	MS20392-1C63	-63	MS20392-2C63	-63	MS20392-3C63
2-1/32	-65	MS20392-1C65	-65	MS20392-2C65	-65	MS20392-3C65
2-3/32	-67	MS20392-1C67	-67	MS20392-2C67	-67	MS20392-3C67
2-5/32			-69	MS20392-2C69	-69	MS20392-3C69
2-7/32			-71	MS20392-2C71	-71	MS20392-3C71
2-9/32			-73	MS20392-2C73	-73	MS20392-3C73
2-11/32			-75	MS20392-2C75	-75	MS20392-3C75
2-13/32			-77	MS20392-2C77	-77	MS20392-3C77
2-15/32			-79	MS20392-2C79	-79	MS20392-3C79
2-17/32			-81	MS20392-2C81	-81	MS20392-3C81
2-19/32			-83	MS20392-2C83	-83	MS20392-3C83
2-21/32			-85	MS20392-2C85	-85	MS20392-3C85
2-23/32			-87	MS20392-2C87	-87	MS20392-3C87
2-25/32			-89	MS20392-2C89	-89	MS20392-3C89
2-27/32			-91	MS20392-2C91	-91	MS20392-3C91
2-29/32			-93	MS20392-2C93	-93	MS20392-3C93
2-31/32			-95	MS20392-2C95	-95	MS20392-3C95
3-1/32					-97	**MS20392-3C97**
	Double Shear Strength		**Double Shear Strength**		**Double Shear Strength**	
Steel	**1,840 LBS**		**4,140 LBS**		**7,360 LBS**	
CRES	**3,080**		**6,900**		**12,280**	
Titanium	**2,340**		**5,240**		**9,320**	
Use Washer	**AN960-4**		**AN960-10**		**AN960-416**	
Use Cotter Pin	**MS24665-130 (Steel)** **MS24665-149 (CRES)**		**MS24665-130 (Steel)** **MS24665-149 (CRES)**		**MS24665-130 (Steel)** **MS24665-149 (CRES)**	

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COTTER PIN MS24665 (AN380 and AN381)

Steel - Cadmium Plated per QQ-P-416, Type II, Class 3
CRES - 300 Series Stainless Steel



SKYBOLT AEROMOTIVE CORP.

Standard Package - 100

		Cadmium Plated Steel		Stainless Steel		Hole Size	Use with:*	
Diameter	Length	AN380	**MS24665**	AN381	**MS24665**	Recommended	AN310/320	MS20392
1/32	3/8	-1-1	MS24665-3	-1-6	MS24665-20	(.047)		
(0.031)	1/2	-1-2	MS24665-5	-1-8	MS24665-22			
	3/4	-1-3	MS24665-7	-1-12	MS24665-24			
	1	-1-4	MS24665-9	-1-16	MS24665-26			
	1-1/4	-1-5	MS24665-10	-1-20	MS24665-27			
	1-1/2	-1-6	MS24665-11	-1-24	MS24665-28			
1/16	3/8	-2-1	MS24665-130	-2-6	MS24665-149	(.078)	-3	-1,-2,-3
(.062)	1/2	-2-2	MS24665-132	-2-8	MS24665-151		-4,-5	
	3/4	-2-3	MS24665-134	-2-12	MS24665-153			
	1	-2-4	MS24665-136	-2-16	MS24665-155			
	1-1/4	-2-5		-2-20	MS24665-157			
	1-1/2	-2-6	MS24665-140	-2-24	MS24665-159			
	1-3/4	-2-7	MS24665-142	-2-28	MS24665-161			
	2	-2-8	MS24665-143	-2-32	MS24665-162			
	2-1/2	-2-10	MS24665-144	-2-40	MS24665-163			
	3	-2-12	MS24665-145	-2-48	MS24665-164			
3/32	1/2	-3-2	MS24665-281	-3-8	MS24665-298	(.109)		-4,-5
(.094)	3/4	-3-3	MS24665-283	-3-12	MS24665-300		-6,-7,-8	
	1	-3-4	MS24665-285	-3-16	MS24665-302			
	1-1/4	-3-5	MS24665-287	-3-20	MS24665-304			
	1-1/2	-3-6	MS24665-289	-3-24	MS24665-306			
	1-3/4	-3-7	MS24665-291	-3-28	MS24665-308			
	2	-3-8	MS24665-292	-3-32	MS24665-309			
	2-1/2	-3-10	MS24665-294	-3-40	MS24665-311			
	3	-3-12	MS24665-295	-3-48	MS24665-312			
1/8	1/2	-4-2	MS24665-349	-4-8	MS24665-366	(.141)		
(.125)	3/4	-4-3	MS24665-351	-4-12	MS24665-368			
	1	-4-4	MS24665-353	-4-16	MS24665-370		-9,-10	
	1-1/4	-4-5	MS24665-355	-4-20	MS24665-372		-12	
	1-1/2	-4-6	MS24665-357	-4-24	MS24665-374			
	1-3/4	-4-7	MS24665-359	-4-28	MS24665-376			
	2	-4-8	MS24665-360	-4-32	MS24665-377			
	2-1/2	-4-10	MS24665-362	-4-40	MS24665-379			
	3	-4-12	MS24665-363	-4-48	MS24665-380			
5/32	1/2	-5-2	MS24665-417	-5-8	MS24665-435	(.172)		
(.156)	3/4	-5-3	MS24665-418	-5-12	MS24665-436			
	1	-5-4	MS24665-419	-5-16	MS24665-437			
	1-1/4	-5-5	MS24665-421	-5-20	MS24665-439			
	1-1/2	-5-6	MS24665-423	-5-24	MS24665-441			
	1-3/4	-5-7	MS24665-425	-5-28	MS24665-443			
	2	-5-8	MS24665-426	-5-32	MS24665-444			
	2-1/4	-5-9	MS24665-427	-5-36	MS24665-445			
	2-1/2	-5-10	MS24665-428	-5-40	MS24665-446			
	3	-5-12	MS24665-430	-5-48	MS24665-448			
	3-1/2	-5-14	MS24665-431	-5-56	MS24665-449			
	4	-5-16	MS24665-432	-5-64	MS24665-450			
3/16	3/4	-6-3	MS24665-490	-6-12	MS24665-508	(.203)		
(.188)	1	-6-4	MS24665-491	-6-16	MS24665-509			
	1-1/4	-6-5	MS24665-493	-6-20	MS24665-511			
	1-1/2	-6-6	MS24665-495	-6-24	MS24665-513			
	1-3/4	-6-7	MS24665-497	-6-28	MS24665-515			
	2	-6-8	MS24665-498	-6-32	MS24665-516			
	2-1/2	-6-10	MS24665-500	-6-40	MS24665-518			
	3	-6-12	MS24665-502	-6-48	MS24665-520			
	3-1/2	-6-14	MS24665-503	-6-56	MS24665-521			
	4	-6-16	MS24665-504	-6-64	MS24665-522			

Note: *Reference MS33540

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CLECO FASTENERS

C" SERIES CLECO

The "C" series fasteners are the standard (button) plunger type "cleco". Plier operated, spring loaded with a strong, durable steel, plated body. Designed for sheets that require precise holding of the material while other operations are completed.



Part#	Color Code	G(grip)	Dia	Drill Size
C-3/32	zinc		3/32	#40
C-1/8	copper	0-1/4"	1/8	#30
C-5/32	black		5/32	#20
C-3/16	brass		3/16	#10

SIDE GRIP CLAMPS

Side grip clamps are designed to clamp at the edge of the work area. Ideal for holding workpieces of all types, particularly during bonding, sealing, or glueing operations.

- Plier operated
- Spring loaded
- Constant clamping force
- Use C-200 installation plier



Part#	Grip	Reach	Length
123SG	0-1/2"	1/2"	2-3/16"
124SG	0-3/4"	1/2"	2-7/16"
125SG	0-1/2"	1"	2-3/16"
126SG	0-3/4"	1"	2-7/16"

WINGED SERIES CLAMPS

The Winged type Cleco allows wide ranges of clamping thickness and the ability to apply a desired clamping pressure.



Part#	Alternate#	G(grip)	Diameter
WNX-3/32	KWN-FW-3/32		3/32
WNX-18	KWN-FW-1/8	0-1/2"*	1/8
WNX-5/32	KWN-FW-5/32		5/32
WNX-3/16	KWN-FW-3/16		3/16
WNX-1/4	KWN-FW-1/4		1/4

*Clamps with greater grip range in stock.

DRILL STOPS



Designed as a versatile aid that helps eliminate drill bit breakage and sure stop to regulate hole depth.

- Locks in drill with set screws
- Unique rounded face eliminates surface marring.
- Color coded and permanently marked by size.

Part#	Color Code	Drill Size
CLDS-50	Black	#50
CLDS-40	Zinc	#40
CLDS-30	Copper	#30
CLDS-28	Zinc	#28
CLDS-21	Black	#21
CLDS-20	Zinc	#20
CLDS-12	Brass	#12
CLDS-10	Brass	#10
CLDS-1/4	Copper	1/4
CLDS-5/16	Black	5/16

INSTALLATION TOOLS - Model C-200

For installing all Cleco plier operated fasteners.



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HEAVY DUTY JOBBERS LENGTH DRILL BITS (135 Deg)
AIRCRAFT EXTENSION DRILLS (135 Deg)
LEFT HAND DRILLS (118 Deg)

High Speed Steel, Surface Treated, 135Deg Split Point

Originally designed to drill cotter pin holes, these heavy duty drills are suitable for drilling high tensile strength steels. The 135Deg split point is self centering, and reduces "walking" at the drill point.

Made in USA



R18HD Wire Sizes
Standard Package 12

Part#	Dia	Dec Equiv	Rivet Size
18454	#54	.0550	
18453	#53	.0595	
18452	#52	.0635	
18451	#51	.0679	
18450	#50	.0700	
18449	#49	.0730	
18448	#48	.0760	
18447	#47	.0785	
18446	#46	.0810	
18445	#45	.0820	
18444	#44	.0860	
18443	#43	.0890	
18442	#42	.0935	
18441	#41	.0960	3/32 Nom
18440	#40	.0980	
18439	#39	.0995	
18438	#38	.1015	
18437	#37	.1040	
18436	#36	.1065	
18435	#35	.1100	
18434	#34	.1110	
18433	#33	.1130	
18432	#32	.1160	
18431	#31	.1200	
18430	#30	.1285	1/8 Nom
18429	#29	.1360	
18428	#28	.1405	
18427	#27	.1440	1/8 O/S
18426	#26	.1470	
18425	#25	.1495	
18424	#24	.1520	
18423	#23	.1540	
18422	#22	.1570	
18421	#21	.1590	
18420	#20	.1610	5/32 Nom
18419	#19	.1660	
18418	#18	.1695	
18417	#17	.1730	
18416	#16	.1770	5/32 O/S
18415	#15	.1800	
18414	#14	.1820	
18413	#13	.1850	
18412	#12	.1890	
18411	#11	.1910	
18410	#10	.1935	3/16 Nom
18409	#9	.1960	
18408	#8	.1990	
18407	#7	.2010	
18406	#6	.2040	
18405	#5	.2055	3/16 O/S
18404	#4	.2090	
18403	#3	.2130	
18402	#2	.2210	
18401	#1	.2230	

R10HD FRACTIONAL SIZES
Standard Package 12 (6ea 19/64 to 1/2)

Part#	Dia	Dec Equiv
10404	1/16	.0625
10405	5/64	.0781
10406	3/32	.0938
10407	7/64	.1094
10408	1/8	.1250
10409	9/64	.1406
10410	5/32	.1562
10411	11/64	.1719
10412	3/16	.1875
10413	13/64	.2031
10414	7/32	.2188
10415	15/64	.2344
10416	1/4	.2500
10417	17/64	.2656
10418	9/32	.2812
10419	19/64	.2969
10420	5/16	.3125
10421	21/64	.3281
10422	11/32	.3438
10423	23/64	.3594
10424	3/8	.3750
10425	25/64	.3906
10426	13/32	.4062
10427	27/64	.4219
10428	7/16	.4375
10429	29/64	.4531
10430	15/32	.4688
10431	31/64	.4844
10432	1/2	.5000
10433	33/64	.5156
10434	17/32	.5312
10435	35/64	.5469
10436	9/16	.5625
10437	37/64	.5781
10438	19/32	.5937
10439	39/64	.6094
10440	5/8	.6250
10441	41/64	.6406
10442	21/32	.6562
10443	43/64	.6719
10444	11/16	.6875
10445	45/64	.7031
10446	23/32	.7187
10447	47/64	.7344
10448	3/4	.7500
10449	49/64	.7656
10450	25/32	.7812
10451	51/64	.7969
10452	13/16	.8125
10453	53/64	.8281
10454	27/32	.8438
10455	55/64	.8594
10456	7/8	.8750
10457	57/64	.8906



Unibit Step Drills

Part#	Hole Sizes	Steps	Sizes
Unibit-1	13	32nds	1/8-1/2
Unibit-4	12.00	1/8	3/16-7/8

6" Extension Drills - Add -6 to Part#. 12" Extension Drills - Add -12 to Part#. Left Hand Drills - Add -L to Part#.

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SOLID RIVETS - Aluminum MS20470 and MS20426

Type A =1100 Soft , Low strength. Type AD=2117-t4 Medium Strength, 26,000 PSI*. Type B =5056-H32, for magnesium Alloys, 24,000PSI. Type DD=2024-T4, High Strength, 37,000PSI. Type D=2017-T4, High Shear Strength,33,000PSI. Type E=7050-T73, High Shear, High Temp, 41,000PSI. Type K=2219-T81, High Strength, High Temp., 32,000PSI. Type T= Titanium,45CB, Ultimate Strength and Temp.,50,000PSI Note: *Undriven Shear Strength.

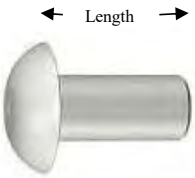
All Rivets sold by pound or 100 pc Count. To order by 100 pc, add '_100' to part number (MS20470AD4-3_100)

Common Rivet Diameter/Length Chart

MS20470

Universal Head - Approximate Pieces Per Pound

		Nominal Diameter Dash#							
		1/16	3/32	1/8	5/32	3/16	1/4	5/16	3/8
		0.062	0.094	0.125	0.156	0.187	0.250	0.312	0.375
LENGTH	**DASH#**	**-2**	**-3**	**-4**	**-5**	**-6**	**-8**	**-10**	**-12**
1/16	**-1**	24390	8457	3968					
3/32	**-1.5**	19608	7194	3436	1908	1261			
1/8	**-2**	16667	6250	3040	1712	1136			
3/16	**-3**	12658	4926	2457	1418	952	427		
1/4	**-4**	10204	4049	2066	1212	813	377	214	149
5/16	**-5**	8547	3436	1783	1057	714	338	193	135
3/8	**-6**	7353	2994	1565	935	633	306	177	123
7/16	**-7**	6452	2646	1397	840	571	279	163	114
1/2	**-8**	5747	2375	1261	763	521	257	151	105
9/16	**-9**	5181	2151	1148	699	476	238	141	98
5/8	**-10**	5717	1969	1055	645	441	222	132	92
11/16	**-11**	4329	1811	971	599	408	207	124	86
3/4	**-12**	4000	1681	909	559	382	195	117	81
7/8	**-14**	3472	1466	794	493	337	174	105	73
1	**-16**	3067	1300	709	441	301	157	95	66
1-1/8	**-18**	2488	1168	637	398	273	143	87	61
1-1/4	**-20**	2092	1059	581	364	249	132	81	56
1-3/8	**-22**		971	535	334	229	122	75	52
1-1/2	**-24**		893	493	310	212	113	69	49
1-3/4	**-28**		775	427	270	185	99	61	43
2	**-32**		680	377	238	163	88	55	38
2-1/4	**-36**			338	214	147	80	50	34
2-1/2	**-40**			306	194	133	73	45	31
2-3/4	**-44**			279	177	122	67	41	29
3	**-48**			257	163	112	62	38	27
3-1/4	**-52**				151	104	57	36	25
3-1/2	**-56**				141	97	53	33	23
3-3/4	**-60**				132	91	50	31	22
4	**-64**				124	85	47	30	21
4-1/4	**-68**					81	45	28	20
4-1/2	**-72**					76	42	27	19
4-3/4	**-76**					72	40	25	18
5	**-80**					69	38	24	17
5-1/4	**-84**						36	23	16
5-1/2	**-88**						35	22	15



MS20470

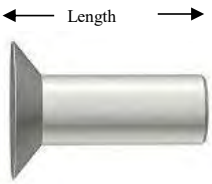
NAS1242 (1/64 Oversize)

Typical Part#
MS20470AD4-4

MS20426 NAS1097

100 Deg Countersunk Head - Approximate Pieces per Pound

LENGTH	**DASH#**	**-2**	**-3**	**-4**	**-5**	**-6**	**-8**	**-10**	**-12**
1/8	**-2**	22727							
3/16	**-3**	15873	6211						
1/4	**-4**	12195	4901	2754	1677	1094			
5/16	**-5**	9900	4032	2267	1394	917			
3/8	**-6**	8333	3424	1930	1194	793	413	268	
7/16	**-7**	7194	2976	1677	1043	699	366	239	
1/2	**-8**	6329	2638	1485	925	621	328	215	140
9/16	**-9**	5649	2364	1331	833	561	298	194	127
5/8	**-10**	5102	2141	1207	757	512	273	178	117
11/16	**-11**	4651	1956	1103	694	469	251	164	108
3/4	**-12**	4273	1805	1017	641	434	234	152	101
7/8	**-14**	3676	1557	877	555	378	204	132	88
1	**-16**	3225	1371	775	490	334	181	117	79
1-1/8	**-18**	2873	1223	689	438	299	163	105	71
1-1/4	**-20**	2577	1106	625	395	271	148	95	65
1-3/8	**-22**		1008	568	361	248	135	88	59
1-1/2	**-24**		925	523	332	228	125	81	55
1-3/4	**-28**		798	444	286	197	108	70	47
2	**-32**		701	392	251	173	95	61	42
2-1/2	**-40**			315	200	139	77	50	34
3	**-48**			264	168	117	64	42	29
3-1/2	**-56**				145	100	55	35	24



MS20426

NAS1241 (1/64 Oversize)

Typical Part#
MS20426AD5-4

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SOLID RIVETS - Aluminum MS20426AD - Pound

MS20426AD — Flush Head



Nominal Diameter Dash#

Length	1/16 0.062 -2	3/32 0.094 -3	1/8 0.125 -4	5/32 0.156 -5	3/16 0.187 -6	1/4 .250 -8
1/16						
3/32						
1/8	MS20426AD2-2					
5/32	MS20426AD2-2.5					
3/16	MS20426AD2-3	MS20426AD3-3				
7/32	MS20426AD2-3.5	MS20426AD3-3.5				
1/4	MS20426AD2-4	MS20426AD3-4	MS20426AD4-4	MS20426AD5-4	MS20426AD6-4	
9/32	MS20426AD2-4.5	MS20426AD3-4.5	MS20426AD4-4.5	MS20426AD5-4.5	MS20426AD6-4.5	
5/16	MS20426AD2-5	MS20426AD3-5	MS20426AD4-5	MS20426AD5-5	MS20426AD6-5	
11/32	MS20426AD2-5.5	MS20426AD3-5.5	MS20426AD4-5.5	MS20426AD5-5.5	MS20426AD6-5.5	
3/8	MS20426AD2-6	MS20426AD3-6	MS20426AD4-6	MS20426AD5-6	MS20426AD6-6	MS20426AD8-6
13/32	MS20426AD2-6.5	MS20426AD3-6.5	MS20426AD4-6.5	MS20426AD5-6.5	MS20426AD6-6.5	MS20426AD8-6.5
7/16	MS20426AD2-7	MS20426AD3-7	MS20426AD4-7	MS20426AD5-7	MS20426AD6-7	MS20426AD8-7
1/2	MS20426AD2-8	MS20426AD3-8	MS20426AD4-8	MS20426AD5-8	MS20426AD6-8	MS20426AD8-8
9/16	MS20426AD2-9	MS20426AD3-9	MS20426AD4-9	MS20426AD5-9	MS20426AD6-9	MS20426AD8-9
5/8	MS20426AD2-10	MS20426AD3-10	MS20426AD4-10	MS20426AD5-10	MS20426AD6-10	MS20426AD8-10
11/16	MS20426AD2-11	MS20426AD3-11	MS20426AD4-11	MS20426AD5-11	MS20426AD6-11	MS20426AD8-11
3/4	MS20426AD2-12	MS20426AD3-12	MS20426AD4-12	MS20426AD5-12	MS20426AD6-12	MS20426AD8-12
7/8	MS20426AD2-14	MS20426AD3-14	MS20426AD4-14	MS20426AD5-14	MS20426AD6-14	MS20426AD8-14
1	MS20426AD2-16	MS20426AD3-16	MS20426AD4-16	MS20426AD5-16	MS20426AD6-16	MS20426AD8-16
1-1/8	MS20426AD2-18	MS20426AD3-18	MS20426AD4-18	MS20426AD5-18	MS20426AD6-18	MS20426AD8-18
1-1/4	MS20426AD2-20	MS20426AD3-20	MS20426AD4-20	MS20426AD5-20	MS20426AD6-20	MS20426AD8-20
1-3/8	MS20426AD2-22	MS20426AD3-22	MS20426AD4-22	MS20426AD5-22	MS20426AD6-22	MS20426AD8-22
1-1/2	MS20426AD2-24	MS20426AD3-24	MS20426AD4-24	MS20426AD5-24	MS20426AD6-24	MS20426AD8-24
1-3/4	MS20426AD2-28	MS20426AD3-28	MS20426AD4-28	MS20426AD5-28	MS20426AD6-28	MS20426AD8-28
2	MS20426AD2-32	MS20426AD3-32	MS20426AD4-32	MS20426AD5-32	MS20426AD6-32	MS20426AD8-32
2-1/4	MS20426AD2-36	MS20426AD3-36	MS20426AD4-36	MS20426AD5-36	MS20426AD6-36	MS20426AD8-36
2-1/2	MS20426AD2-40	MS20426AD3-40	MS20426AD4-40	MS20426AD5-40	MS20426AD6-40	MS20426AD8-40
2-3/4	MS20426AD2-44	MS20426AD3-44	MS20426AD4-44	MS20426AD5-44	MS20426AD6-44	MS20426AD8-44
3	MS20426AD2-48	MS20426AD3-48	MS20426AD4-48	MS20426AD5-48	MS20426AD6-48	MS20426AD8-48

SOLID RIVETS - Aluminum MS20426AD - 100 Piece Bag

MS20426AD — Flush Head

Nominal Diameter Dash#

Length	1/16 0.062 -2	3/32 0.094 -3	1/8 0.125 -4	5/32 0.156 -5	3/16 0.187 -6	1/4 .250 -8
1/16						
3/32						
1/8	MS20426AD2-2C					
5/32	MS20426AD2-2.5C					
3/16	MS20426AD2-3C	MS20426AD3-3C				
7/32	MS20426AD2-3.5C	MS20426AD3-3.5C				
1/4	MS20426AD2-4C	MS20426AD3-4C	MS20426AD4-4C	MS20426AD5-4C	MS20426AD6-4C	
9/32	MS20426AD2-4.5C	MS20426AD3-4.5C	MS20426AD4-4.5C	MS20426AD5-4.5C	MS20426AD6-4.5C	
5/16	MS20426AD2-5C	MS20426AD3-5C	MS20426AD4-5C	MS20426AD5-5C	MS20426AD6-5C	
11/32	MS20426AD2-5.5C	MS20426AD3-5.5C	MS20426AD4-5.5C	MS20426AD5-5.5C	MS20426AD6-5.5C	
3/8	MS20426AD2-6C	MS20426AD3-6C	MS20426AD4-6C	MS20426AD5-6C	MS20426AD6-6C	MS20426AD8-6C
13/32	MS20426AD2-6.5C	MS20426AD3-6.5C	MS20426AD4-6.5C	MS20426AD5-6.5C	MS20426AD6-6.5C	MS20426AD8-6.5C
7/16	MS20426AD2-7C	MS20426AD3-7C	MS20426AD4-7C	MS20426AD5-7C	MS20426AD6-7C	MS20426AD8-7C
1/2	MS20426AD2-8C	MS20426AD3-8C	MS20426AD4-8C	MS20426AD5-8C	MS20426AD6-8C	MS20426AD8-8C
9/16	MS20426AD2-9C	MS20426AD3-9C	MS20426AD4-9C	MS20426AD5-9C	MS20426AD6-9C	MS20426AD8-9C
5/8	MS20426AD2-10C	MS20426AD3-10C	MS20426AD4-10C	MS20426AD5-10C	MS20426AD6-10C	MS20426AD8-10C
11/16	MS20426AD2-11C	MS20426AD3-11C	MS20426AD4-11C	MS20426AD5-11C	MS20426AD6-11C	MS20426AD8-11C
3/4	MS20426AD2-12C	MS20426AD3-12C	MS20426AD4-12C	MS20426AD5-12C	MS20426AD6-12C	MS20426AD8-12C
7/8	MS20426AD2-14C	MS20426AD3-14C	MS20426AD4-14C	MS20426AD5-14C	MS20426AD6-14C	MS20426AD8-14C
1	MS20426AD2-16C	MS20426AD3-16C	MS20426AD4-16C	MS20426AD5-16C	MS20426AD6-16C	MS20426AD8-16C
1-1/8	MS20426AD2-18C	MS20426AD3-18C	MS20426AD4-18C	MS20426AD5-18C	MS20426AD6-18C	MS20426AD8-18C
1-1/4	MS20426AD2-20C	MS20426AD3-20C	MS20426AD4-20C	MS20426AD5-20C	MS20426AD6-20C	MS20426AD8-20C
1-3/8	MS20426AD2-22C	MS20426AD3-22C	MS20426AD4-22C	MS20426AD5-22C	MS20426AD6-22C	MS20426AD8-22C
1-1/2	MS20426AD2-24C	MS20426AD3-24C	MS20426AD4-24C	MS20426AD5-24C	MS20426AD6-24C	MS20426AD8-24C
1-3/4	MS20426AD2-28C	MS20426AD3-28C	MS20426AD4-28C	MS20426AD5-28C	MS20426AD6-28C	MS20426AD8-28C
2	MS20426AD2-32C	MS20426AD3-32C	MS20426AD4-32C	MS20426AD5-32C	MS20426AD6-32C	MS20426AD8-32C
2-1/4	MS20426AD2-36C	MS20426AD3-36C	MS20426AD4-36C	MS20426AD5-36C	MS20426AD6-36C	MS20426AD8-36C
2-1/2	MS20426AD2-40C	MS20426AD3-40C	MS20426AD4-40C	MS20426AD5-40C	MS20426AD6-40C	MS20426AD8-40C
2-3/4	MS20426AD2-44C	MS20426AD3-44C	MS20426AD4-44C	MS20426AD5-44C	MS20426AD6-44C	MS20426AD8-44C
3	MS20426AD2-48C	MS20426AD3-48C	MS20426AD4-48C	MS20426AD5-48C	MS20426AD6-48C	MS20426AD8-48C

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SOLID RIVETS - Aluminum MS20470AD - Pound



MS20470AD Universal Head

Nominal Diameter Dash#

	1/16	3/32	1/8	5/32	3/16	1/4
	0.062	0.094	0.125	0.156	0.187	.250
Length	**-2**	**-3**	**-4**	**-5**	**-6**	**-8**
1/16	MS20470AD2-1	MS20470AD3-1	MS20470AD4-1			
3/32	MS20470AD2-1.5	MS20470AD3-1.5	MS20470AD4-1.5	MS20470AD5-1.5	MS20470AD6-1.5	
1/8	MS20470AD2-2	MS20470AD3-2	MS20470AD4-2	MS20470AD5-2	MS20470AD6-2	
5/32	MS20470AD2-2.5	MS20470AD3-2.5	MS20470AD4-2.5	MS20470AD5-2.5	MS20470AD6-2.5	
3/16	MS20470AD2-3	MS20470AD3-3	MS20470AD4-3	MS20470AD5-3	MS20470AD6-3	MS20470AD8-3
7/32	MS20470AD2-3.5	MS20470AD3-3.5	MS20470AD4-3.5	MS20470AD5-3.5	MS20470AD6-3.5	MS20470AD8-3.5
1/4	MS20470AD2-4	MS20470AD3-4	MS20470AD4-4	MS20470AD5-4	MS20470AD6-4	MS20470AD8-4
9/32	MS20470AD2-4.5	MS20470AD3-4.5	MS20470AD4-4.5	MS20470AD5-4.5	MS20470AD6-4.5	MS20470AD8-4.5
5/16	MS20470AD2-5	MS20470AD3-5	MS20470AD4-5	MS20470AD5-5	MS20470AD6-5	MS20470AD8-5
11/32	MS20470AD2-5.5	MS20470AD3-5.5	MS20470AD4-5.5	MS20470AD5-5.5	MS20470AD6-5.5	MS20470AD8-5.5
3/8	MS20470AD2-6	MS20470AD3-6	MS20470AD4-6	MS20470AD5-6	MS20470AD6-6	MS20470AD8-6
13/32	MS20470AD2-6.5	MS20470AD3-6.5	MS20470AD4-6.5	MS20470AD5-6.5	MS20470AD6-6.5	MS20470AD8-6.5
7/16	MS20470AD2-7	MS20470AD3-7	MS20470AD4-7	MS20470AD5-7	MS20470AD6-7	MS20470AD8-7
1/2	MS20470AD2-8	MS20470AD3-8	MS20470AD4-8	MS20470AD5-8	MS20470AD6-8	MS20470AD8-8
9/16	MS20470AD2-9	MS20470AD3-9	MS20470AD4-9	MS20470AD5-9	MS20470AD6-9	MS20470AD8-9
5/8	MS20470AD2-10	MS20470AD3-10	MS20470AD4-10	MS20470AD5-10	MS20470AD6-10	MS20470AD8-10
11/16	MS20470AD2-11	MS20470AD3-11	MS20470AD4-11	MS20470AD5-11	MS20470AD6-11	MS20470AD8-11
3/4	MS20470AD2-12	MS20470AD3-12	MS20470AD4-12	MS20470AD5-12	MS20470AD6-12	MS20470AD8-12
7/8	MS20470AD2-14	MS20470AD3-14	MS20470AD4-14	MS20470AD5-14	MS20470AD6-14	MS20470AD8-14
1	MS20470AD2-16	MS20470AD3-16	MS20470AD4-16	MS20470AD5-16	MS20470AD6-16	MS20470AD8-16
1-1/8	MS20470AD2-18	MS20470AD3-18	MS20470AD4-18	MS20470AD5-18	MS20470AD6-18	MS20470AD8-18
1-1/4	MS20470AD2-20	MS20470AD3-20	MS20470AD4-20	MS20470AD5-20	MS20470AD6-20	MS20470AD8-20
1-3/8	MS20470AD2-22	MS20470AD3-22	MS20470AD4-22	MS20470AD5-22	MS20470AD6-22	MS20470AD8-22
1-1/2	MS20470AD2-24	MS20470AD3-24	MS20470AD4-24	MS20470AD5-24	MS20470AD6-24	MS20470AD8-24
1-3/4	MS20470AD2-28	MS20470AD3-28	MS20470AD4-28	MS20470AD5-28	MS20470AD6-28	MS20470AD8-28
2	MS20470AD2-32	MS20470AD3-32	MS20470AD4-32	MS20470AD5-32	MS20470AD6-32	MS20470AD8-32
2-1/4	MS20470AD2-36	MS20470AD3-36	MS20470AD4-36	MS20470AD5-36	MS20470AD6-36	MS20470AD8-36
2-1/2	MS20470AD2-40	MS20470AD3-40	MS20470AD4-40	MS20470AD5-40	MS20470AD6-40	MS20470AD8-40
2-3/4	MS20470AD2-44	MS20470AD3-44	MS20470AD4-44	MS20470AD5-44	MS20470AD6-44	MS20470AD8-44
3	MS20470AD2-48	MS20470AD3-48	MS20470AD4-48	MS20470AD5-48	MS20470AD6-48	MS20470AD8-48

SOLID RIVETS - Aluminum MS20470AD - 100 Piece Bag

MS20470AD Universal Head

Nominal Diameter Dash#

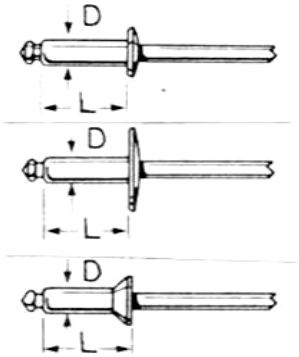
	1/16	3/32	1/8	5/32	3/16	1/4
	0.062	0.094	0.125	0.156	0.187	.250
Length	**-2**	**-3**	**-4**	**-5**	**-6**	**-8**
1/16	MS20470AD2-1C	MS20470AD3-1C	MS20470AD4-1C			
3/32	MS20470AD2-1.5C	MS20470AD3-1.5C	MS20470AD4-1.5C	MS20470AD5-1.5C	MS20470AD6-1.5C	MS20470AD8-1.5C
1/8	MS20470AD2-2C	MS20470AD3-2C	MS20470AD4-2C	MS20470AD5-2C	MS20470AD6-2C	MS20470AD8-2C
5/32	MS20470AD2-2.5C	MS20470AD3-2.5C	MS20470AD4-2.5C	MS20470AD5-2.5C	MS20470AD6-2.5C	MS20470AD8-2.5C
3/16	MS20470AD2-3C	MS20470AD3-3C	MS20470AD4-3C	MS20470AD5-3C	MS20470AD6-3C	MS20470AD8-3C
7/32	MS20470AD2-3.5C	MS20470AD3-3.5C	MS20470AD4-3.5C	MS20470AD5-3.5C	MS20470AD6-3.5C	MS20470AD8-3.5C
1/4	MS20470AD2-4C	MS20470AD3-4C	MS20470AD4-4C	MS20470AD5-4C	MS20470AD6-4C	MS20470AD8-4C
9/32	MS20470AD2-4.5C	MS20470AD3-4.5C	MS20470AD4-4.5C	MS20470AD5-4.5C	MS20470AD6-4.5C	MS20470AD8-4.5C
5/16	MS20470AD2-5C	MS20470AD3-5C	MS20470AD4-5C	MS20470AD5-5C	MS20470AD6-5C	MS20470AD8-5C
11/32	MS20470AD2-5.5C	MS20470AD3-5.5C	MS20470AD4-5.5C	MS20470AD5-5.5C	MS20470AD6-5.5C	MS20470AD8-5.5C
3/8	MS20470AD2-6C	MS20470AD3-6C	MS20470AD4-6C	MS20470AD5-6C	MS20470AD6-6C	MS20470AD8-6C
13/32	MS20470AD2-6.5C	MS20470AD3-6.5C	MS20470AD4-6.5C	MS20470AD5-6.5C	MS20470AD6-6.5C	MS20470AD8-6.5C
7/16	MS20470AD2-7C	MS20470AD3-7C	MS20470AD4-7C	MS20470AD5-7C	MS20470AD6-7C	MS20470AD8-7C
1/2	MS20470AD2-8C	MS20470AD3-8C	MS20470AD4-8C	MS20470AD5-8C	MS20470AD6-8C	MS20470AD8-8C
9/16	MS20470AD2-9C	MS20470AD3-9C	MS20470AD4-9C	MS20470AD5-9C	MS20470AD6-9C	MS20470AD8-9C
5/8	MS20470AD2-10C	MS20470AD3-10C	MS20470AD4-10C	MS20470AD5-10C	MS20470AD6-10C	MS20470AD8-10C
11/16	MS20470AD2-11C	MS20470AD3-11C	MS20470AD4-11C	MS20470AD5-11C	MS20470AD6-11C	MS20470AD8-11C
3/4	MS20470AD2-12C	MS20470AD3-12C	MS20470AD4-12C	MS20470AD5-12C	MS20470AD6-12C	MS20470AD8-12C
7/8	MS20470AD2-14C	MS20470AD3-14C	MS20470AD4-14C	MS20470AD5-14C	MS20470AD6-14C	MS20470AD8-14C
1	MS20470AD2-16C	MS20470AD3-16C	MS20470AD4-16C	MS20470AD5-16C	MS20470AD6-16C	MS20470AD8-16C
1-1/8	MS20470AD2-18C	MS20470AD3-18C	MS20470AD4-18C	MS20470AD5-18C	MS20470AD6-18C	MS20470AD8-18C
1-1/4	MS20470AD2-20C	MS20470AD3-20C	MS20470AD4-20C	MS20470AD5-20C	MS20470AD6-20C	MS20470AD8-20C
1-3/8	MS20470AD2-22C	MS20470AD3-22C	MS20470AD4-22C	MS20470AD5-22C	MS20470AD6-22C	MS20470AD8-22C
1-1/2	MS20470AD2-24C	MS20470AD3-24C	MS20470AD4-24C	MS20470AD5-24C	MS20470AD6-24C	MS20470AD8-24C
1-3/4	MS20470AD2-28C	MS20470AD3-28C	MS20470AD4-28C	MS20470AD5-28C	MS20470AD6-28C	MS20470AD8-28C
2	MS20470AD2-32C	MS20470AD3-32C	MS20470AD4-32C	MS20470AD5-32C	MS20470AD6-32C	MS20470AD8-32C
2-1/4	MS20470AD2-36C	MS20470AD3-36C	MS20470AD4-36C	MS20470AD5-36C	MS20470AD6-36C	MS20470AD8-36C
2-1/2	MS20470AD2-40C	MS20470AD3-40C	MS20470AD4-40C	MS20470AD5-40C	MS20470AD6-40C	MS20470AD8-40C
2-3/4	MS20470AD2-44C	MS20470AD3-44C	MS20470AD4-44C	MS20470AD5-44C	MS20470AD6-44C	MS20470AD8-44C
3	MS20470AD2-48C	MS20470AD3-48C	MS20470AD4-48C	MS20470AD5-48C	MS20470AD6-48C	MS20470AD8-48C

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NON-STRUCTURAL BLIND RIVETS

Commercial Series

CHERRY N and AFC type rivets are very similar to USM 'POP' rivets. CHERRY N conforms to IFI-114 Standards, are nonstructural, break mandrel rivets. AVEX rivets are similar to both POP and Cherry N, but only available with a steel mandrel. AVEX rivets are designed slightly oversize in diameter.
Some homebuilt designs utilize Cherry Q rivets, a semi-structural self-plugging rivet with sealing capability. Only limited sizes and types are available. USM POP ADH series rivets are similar to Cherry BSPQ, but do not have a mechanically locked stem and is not a true substitute.



Cherry N/POP Protruding Head

Large Head

120 Deg Flush Head

POP Rivets - Non-Structural Blind Rivets

Non Structural Blind Rivets

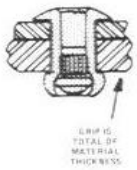
See next page for Part Numbers

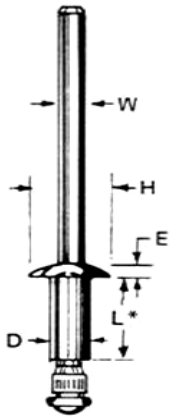
Cherry Q Rivets - Semi-Structural Blind Rivets

5056 Aluminum Sleeve Mechanically Locked Steel Stem

Commercial Grade, Semi-Structural, Self Plugging, Sealing

Part#	Grip Range	Shear Lbs	Tensile Lbs
BSPQ41	.025-.062	350	325
BSPQ42	.063-.125	350	325
BSPQ43	.126-.187	350	325
BSPQ44	.188-.250	350	325





Cherry Nut Plate Rivet

Part#	Head	Dia	Grip
CCR264SS-3-1	Csk	3/32	.062
CCR264SS-3-2	Csk	3/32	.125
CCR264SS-3-3	Csk	3/32	.187
CCR264SS-3-4	Csk	3/32	.250
CCR274SS-3-1	Prot	3/32	.062
CCR274SS-3-2	Prot	3/32	.125
CCR274SS-3-3	Prot	3/32	.187
CCR274SS-3-4	Prot	3/32	.250

Blind Rivet Backing Washers

100-Pc Bag - Aluminum

Part#	Rivet	ID	OD	Thickness
SK-BW18	1/8	.133	.375	.062
SK-BW532	5/32	.165	.437	.062
SK-BW316	3/16	.197	.500	.062



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Non-Structural Blind Rivets



HEAD		ALUM/ALUM		ALUM/STEEL		STEEL/STEEL		STAINLESS		GRIP	
DIA	STYLE	POP	CHERRY	POP	CHERRY	POP	CHERRY	POP	CHERRY	MIN	MAX
3/32	DOME	AD32ABS	AAP32	AD32BS	BSP32	SD32BS	SSP32		CCP32	0.031	0.125
		AD34ABS	AAP34	AD32BS	BSP34	SD34BS	SSP34		CCP34	0.126	0.250
			AAP36		BSP36		SSP36			0.251	0.375
	CSK		AAC32		BSC32		SSC32			0.063	0.125
			AAC33		BSC33		SSC33			0.126	0.187
			AAC34		BSC34		SSC34			0.188	0.250
			AAC36		BSC36		SSC36			0.251	0.375
1/8	DOME	AD41ABS	AAP41	AD41BS	BSP41	SD41BS	SSP41		CCP41	0.031	0.062
		AD42ABS	AAP42	AD42BS	BSP42	SD42BS	SSP42	SSD42SSBS	CCP42	0.063	0.125
		AD43ABS	AAP43	AD43BS	BSP43	SD43BS	SSP43	SSD43SSBS	CCP43	0.126	0.187
		AD44ABS	AAP44	AD44BS	BSP44	SD44BS	SSP44	SSD44SSBS	CCP44	0.188	0.250
		AD45ABS	AAP45	AD45BS	BSP45	SD45BS	SSP45		CCP45	0.251	0.312
		AD46ABS	AAP46	AD46BS	BSP46	SD46BS	SSP46	SSD46SSBS	CCP46	0.313	0.375
		AD48ABS	AAP48	AD48BS	BSP48	SD48BS	SSP48			0.376	0.500
		AD410ABS	AAP410	AD410BS	BSP410					0.501	0.625
	CSK	AK42ABS	AAC42	AK42BS	BSC42	SK42BS	SSC42		CCC42	0.063	0.125
			AAC43	AK43BS	BSC43		SSC43		CCC43	0.126	0.187
			AAC44	AK44BS	BSC44	SK44BS	SSC44		CCC44	0.188	0.250
			AAC45	AK45BS	BSC45		SSC45		CCC45	0.251	0.312
							SSC46		CCC46	0.313	0.375
	LARGE	AD42ABSLF	AAL42	AD42BSLF	BSL42	SD42BSLF	SSL42			0.031	0.125
	FLANGE			AD43BSLF						0.126	0.187
		AD44ABSLF	AAL44	AD44BSLF	BSL44	SD44BSLF	SSL44			0.126	0.250
							SSL46			0.251	0.375
							SSL48			0.376	0.500
5/32	DOME	AD52ABS	AAP52	AD52BS	BSP52	SD52BS	SSP52	SSD52SSBS	CCP52	0.063	0.125
		AD53ABS	AAP53	AD53BS	BSP53					0.126	0.187
		AD54ABS	AAP54	AD54BS	BSP54	SD54BS	SSP54	SSD54SSBS	CCP54	0.188	0.250
		AD56ABS	AAP56	AD56BS	BSP56	SD56BS	SSP56		CCP56	0.251	0.375
		AD58ABS	AAP58	AD58BS	BSP58		SSP58			0.376	0.500
							SSP510			0.501	0.625
	CSK		AAC54	AK54BS	BSC54		SSC54		CCC54	0.188	0.250
			AAC56	AK56BS	BSC56		SSC56		CCC56	0.251	0.375
							SSC58			0.376	0.500
							SSC510			0.501	0.625
	LARGE	AD54ABSLF	AAL54	AD54BSLF	BSL54	SD54BSLF	SSL54		CCL54	0.188	0.250
	FLANGE		AAL56		BSL56		SSL56		CCL56	0.251	0.375
			AAL58		BSL58		SSL58			0.376	0.500
			AAL510		BSL510					0.501	0.625
3/16	DOME	AD62ABS	AAP62	AD62BS	BSP62	SD62BS	SSP62	SSD62SSBS	CCP62	0.063	0.125
		AD64ABS	AAP64	AD64BS	BSP64	SD64BS	SSP64	SSD64SSBS	CCP64	0.126	0.250
		AD66ABS	AAP66	AD66BS	BSP66	SD66BS	SSP66	SSD66SSBS	CCP66	0.251	0.375
		AD68ABS	AAP68	AD68BS	BSP68	SD68BS	SSP68	SSD68SSBS	CCP68	0.376	0.500
		AD610ABS	AAP610	AD610BS	BSP610	SD610BS	SSP610			0.501	0.625
		AD612ABS	AAP612	AD612BS	BSP612	SD612BS	SSP612			0.626	0.750
	LARGE	AD64ABSLF	AAL64	AD64BSLF	BSL64	SD64BSLF	SSL64		CCL64	0.126	0.250
	FLANGE	AD66ABSLF	AAL66	AD66BSLF	BSL66	SD66BSLF	SSL66		CCL66	0.251	0.375
		AD68ABSLF	AAL68	AD68BSLF	BSL68	SD68BSLF	SSL68		CCL68	0.376	0.500
		AD610ABSLF	AAL610	AD610BSLF	BSL610	SD610BSLF	SSL610			0.501	0.625
		AD612ABSLF	AAL612	AD612BSLF	BSL612	SD612BSLF	SSL612			0.626	0.750

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CherryMax Rivets

Traditional "Cherry Rivets" were originally designed with a knob stem, the most commonly used was the CR162/CR163 MS Series. These rivets require special tooling to install and leave a protruding break stem that must be trimmed. Cherry developed the CR9162/CR9163 MS Series rivet to replace the knob stem, thus simple pulling tools could be used. The CherryLock rivet was developed to gain strength ratings equivalent to solid AD rivets. The CherryLock rivet required double action pulling tools to install. CherryLock rivets are all oversize diameters. The CherryMax rivet was developed to replace the CherryLock, required simple pulling tools to install, and are also available in Nominal and Oversize shank. The Oversize CherryMax has strength ratings that meet or exceed solid AD rivets. The drawback to the CherryMax is removal. The Break Stem is constructed of 8740 Alloy Steel and is very difficult to drill out. However, by drilling the head center, a punch can drive the break stem out allowing the shank to be drilled and removed.

Considerations for using Cherry Blind Rivets

1) CherryMax is a structural rivet, Cherry Q or POP rivets are not.
2) Panels should be clamped before installing CherryMax rivets as they are not designed for excessive panel "takeup".
3) CherryMax can be substituted for specifications calling for CR162/CR163 or CherryLock.
4) CherryMax is an approved substitute for solid AD rivets in a structural application

Skybolt only supplies Factory New Cherry products with full traceability, no surplus, no sweepings, no aftermarket parts.

CherryMax

5056 Aluminum Sleeve 8740 Alloy Steel Stem

Common Sizes

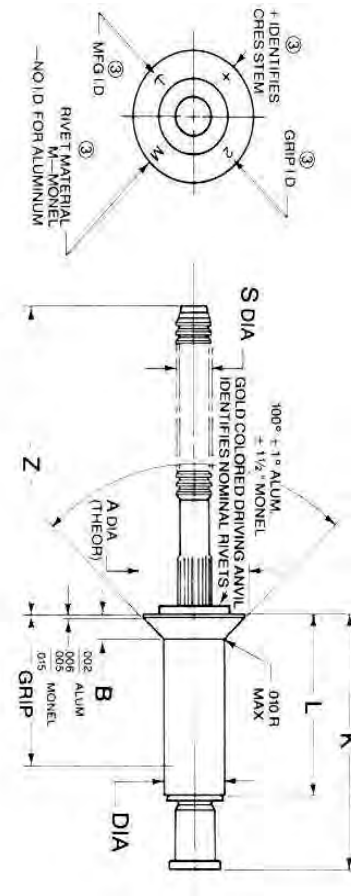
100 Degree Flush Head - Nominal Shank (.126) #30 Drill

Part#	Size	Grip Limits	Shear Lbs	Tensile Lbs
CR3212-4-2	1/8	.063-.125	411	285
CR3212-4-3	1/8	.126-.187	531	285
CR3212-4-4	1/8	.188-.250	651	285
CR3212-4-5	1/8	.251-.312	664	285
CR3212-5-2	5/32	.065-.125	-	445
CR3212-5-3	5/32	.126-.187	714	445
CR3212-5-4	5/32	.188-.250	862	445
CR3212-5-5	5/32	.251-.312	1012	445
CR3212-5-6	5/32	.313-.375	1030	445

100 Degree Flush Head - Oversize Shank (.140) #27 Drill

Part#	Size	Grip Limits	Shear Lbs	Tensile Lbs
CR3242-4-2	1/8	.063-.125	480	345
CR3242-4-3	1/8	.126-.187	614	345
CR3242-4-4	1/8	.188-.250	741	345
CR3242-4-5	1/8	.251-.312	814	345
CR3242-5-2	5/32	.065-.125	-	530
CR3242-5-3	5/32	.126-.187	815	530
CR3242-5-4	5/32	.188-.250	977	530
CR3242-5-5	5/32	.251-.312	1137	530
CR3242-5-6	5/32	.313-.375	1245	530

Larger Sizes in stock



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CherryMax

Common Sizes

Universal Head - Nominal Shank (.126) #30 Drill

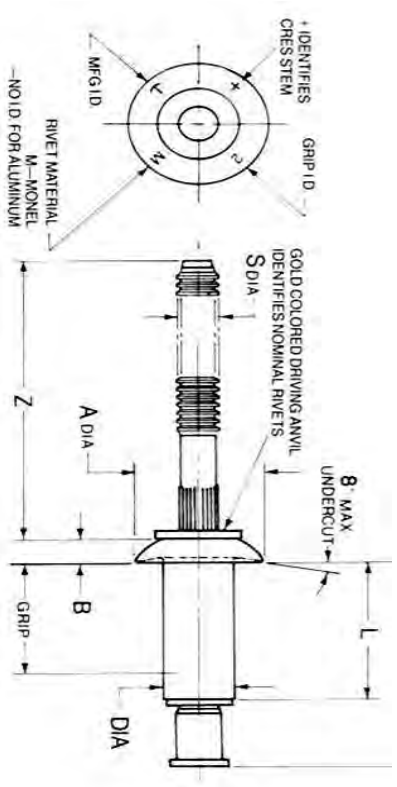
Part#	Size	Grip Limits	Shear Lbs	Tensile Lbs
CR3213-4-1	1/8	.025-.062	-	285
CR3213-4-2	1/8	.063-.125	411	285
CR3213-4-3	1/8	.126-.187	531	285
CR3213-4-4	1/8	.188-.250	651	285
CR3213-4-5	1/8	.251-.312	664	285
CR3213-5-1	5/32	.031-.062	-	445
CR3213-5-2	5/32	.065-.125	-	445
CR3213-5-3	5/32	.126-.187	714	445
CR3213-5-4	5/32	.188-.250	862	445
CR3213-5-5	5/32	.251-.312	1012	445
CR3213-5-6	5/32	.313-.375	1030	445

Larger Sizes in stock

Universal Head - Oversize Shank (.140) #27 Drill

Part#	Size	Grip Limits	Shear Lbs	Tensile Lbs
CR3243-4-1	1/8	.025-.062	-	345
CR3243-4-2	1/8	.063-.125	480	345
CR3243-4-3	1/8	.126-.187	614	345
CR3243-4-4	1/8	.188-.250	741	345
CR3243-4-5	1/8	.251-.312	814	345
CR3243-5-1	5/32	.031-.062	-	530
CR3243-5-2	5/32	.065-.125	-	530
CR3243-5-3	5/32	.126-.187	815	530
CR3243-5-4	5/32	.188-.250	977	530
CR3243-5-5	5/32	.251-.312	1137	530
CR3243-5-6	5/32	.313-.375	1245	530

Larger Sizes in stock



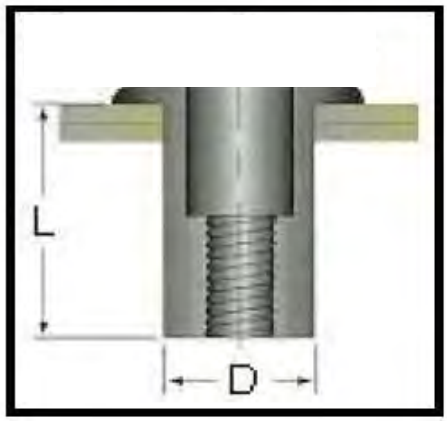
RIVET REQUIREMENT CHART Dzus Camloc Southco Airloc

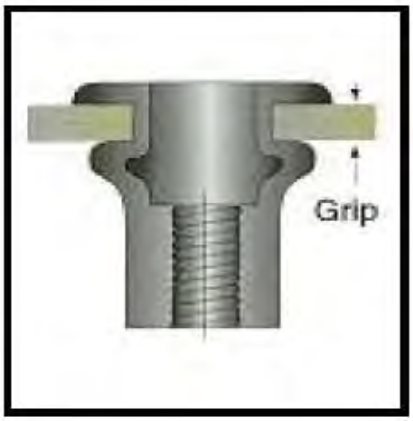
Stud Type	Receptacle	Thickness	Rivet Size	Head Type	Solid Rivet/Blind Rivet .020	.032	.040	.063	.100
ZLoc	S3	.100	3/32	CSK	3-3, 32*	3-3, 32	3-3, 32	3-3, 32	
	S4	.100	3/32	CSK	3-3, 32	3-3, 32	3-3, 32	3-3, 32	
	S5A	.110	1/8	CSK	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-4, 44
	S6A	.110	1/8	CSK	4-4, 43	4-4, 43	4-4, 43	4-4, 43	4-4, 44
	S7A	.110	1/8	CSK	4-4, 43	4-4, 43	4-4, 43	4-4, 43	4-4, 44
	EHF Stud	.020	1/8	UNIV	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-4, 44
	945/946 Plate								
	with S5,S6,214	.100	1/8	UNIV					4-4, 44
	with 244,SK215,SK245	.100	1/8	UNIV					4-5, 44
CLoc	212, SK213-2	.075	3/32	CSK	3-3, 32	3-3, 32	3-4, 33	3-4, 33	3-4, 33
	214, SK213-28	.090	1/8	CSK	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-4, 44
	244,SK215,SK245	.100	1/8	CSK	4-4, 43	4-4, 43	4-4, 43	4-4, 43	4-5, 44
Southco	82-35-295-20	.120	3/32	CSK	3-4, 33	3-4, 33	3-5, 34	3-5, 34	3-5, 34
	82-35-302-15	.130	3/32	CSK	3-4, 33	3-5 34	3-5 34	3-5 34	3-5 34
	85-35-295-20	.160	1/8	CSK	4-5, 44	4-5, 44	4-5, 44	4-5, 44	4-6, 45
Lord	J7444 Series (#832)	.055	5/32(Ream)	UNIV	5-3, 52	5-3, 52	5-3, 52	5-3, 52	5-4, 53
SK2003	SK2003 Series (#832)	.055	5/32	UNIV	5-3, 52	5-3, 52	5-3, 52	5-3, 52	5-4, 53
ALoc	99797-P130	.032	1/8	CSK	4-3, 42	4-3, 42	4-3, 42	4-3, 42	4-4, 43
	99871-C098	.075	3/32	CSK	3-3, 32	3-3, 32	3-4, 33	3-4, 33	3-4, 33
	99833-C098	.075	3/32	CSK	3-3, 32	3-3, 32	3-4, 33	3-4, 33	3-4, 33
	99833-P098	.032	3/32	CSK	3-3, 32	3-3, 32	3-3, 32	3-3, 32	3-4, 33
	99833-C130	.075	1/8	CSK	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-4, 43
	99833-P130	.032	1/8	CSK	4-3, 42	4-3, 42	4-3, 42	4-3, 42	4-4, 43
	99947-C130	.090	1/8	CSK	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-5, 44
	99947-P130	.050	1/8	CSK	4-3, 42	4-3, 42	4-3, 42	4-3, 42	4-4, 43
	99948-C130	.090	1/8	CSK	4-3, 42	4-3, 42	4-4, 43	4-4, 43	4-5, 44

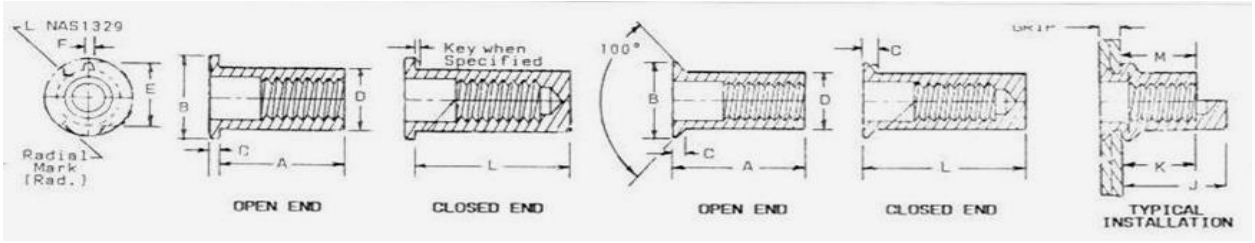
*Example: To Mount a Dzus Spring to a .020 Panel - Use a Solid Rivet MS20470AD3-3 or Blind Rivet SSP32

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Rivnuts







		Flat Head		Countersunk					Drill	Hole Size	
Size	Thread	B	C	B	C	D	E	F	Size	Min	Max
6	#6-32	.325	.032	.323	.063	.189	.240	.054	#12	.189	.193
8	#8-32	.357	.032	.355	.063	.221	.271	.054	#2	.221	.226
10	#10-32	.406	.038	.391	.065	.250	.302	.054	E	.250	.256
1/4	1/4-28	.475	.058	.529	.089	.332	.382	.054	Q	.332	.338

Common Rivnut Sizes Standard Package - 10

Flat Head - Open End - Keyed

Part#	Grip Range	A	M
A6K75	.010-.075	.438	.300
A6K120	.075-.120	.500	.315
A8K75	.010-.075	.438	.300
A8K120	.075-.120	.500	.315
A10K80	010-.080	.531	.380
A10K130	.080-.130	.594	.390
A10K180	.130-.180	.641	.390

Countersunk - Open End - Keyed

Part#	Grip Range	A	M
A6K106	.065-.106	.500	.325
A8K106	.065-.106	.500	.325
A10K116	.065-.116	.578	.395
A10K166	.116-.166	.625	.385

200RNC Rivet Nutter Tool

Inserts Rivnuts and Threadserts. #632,#832,#1032
1/4-20, 5/16-18, 3/8-16.

Part#
200RNC



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FBO PLUS HARDWARE KIT SYSTEM



Our most complete, professional kit system is designed for even the largest shop or repair facility. The All-Steel construction (drawers and slide racks) feature slide out drawers that easily lift out for added utility. This system is completely expandable for your growing hardware needs by adding additional drawers and racks.

Consider these value packed features:
***Professional Quality, Factory New Fasteners**
***Top Quality, Rugged Construction Cabinets**
***All Compartments Labeled**
***Most Common, High Use Items**

FBO BOLT 1 KIT **(Included in FBO System)** ***FBO BOLT 2 KIT*** **(OPTIONAL)**

DRAWER 1 DK-AN3A		DRAWER 2 DK-AN3		DRAWER 3 DK-AN4A		DRAWER 4 DK-AN4		DRAWER 5 DK-AN5A		DRAWER 6 DK-AN5		DRAWER 7 DK-AN6A		DRAWER 8 DK-AN6	
Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY
AN3-3A	25	AN3-3	10	AN4-4A	25	AN4-3	10	AN5-5A	10	AN5-5	5	AN6-5A	5	AN6-5	5
AN3-4A	25	AN3-4	10	AN4-5A	25	AN4-4	10	AN5-6A	10	AN5-6	5	AN6-6A	5	AN6-6	5
AN3-5A	25	AN3-5	10	AN4-6A	25	AN4-5	10	AN5-7A	10	AN5-7	5	AN6-7A	5	AN6-7	5
AN3-6A	25	AN3-6	10	AN4-7A	25	AN4-6	10	AN5-10A	10	AN5-10	5	AN6-10A	5	AN6-10	5
AN3-7A	25	AN3-7	10	AN4-10A	25	AN4-7	10	AN5-11A	10	AN5-11	5	AN6-11A	5	AN6-11	5
AN3-10A	25	AN3-10	10	AN4-11A	10	AN4-10	10	AN5-12A	10	AN5-12	5	AN6-12A	5	AN6-12	5
AN3-11A	10	AN3-11	10	AN4-12A	10	AN4-11	10	AN5-13A	10	AN5-13	5	AN6-13A	5	AN6-13	5
AN3-12A	10	AN3-12	10	AN4-13A	10	AN4-12	10	AN5-14A	10	AN5-14	5	AN6-14A	5	AN6-14	5
AN3-13A	10	AN3-13	5	AN4-14A	10	AN4-13	5	AN5-15A	10	AN5-15	5	AN6-15A	5	AN6-15	5
AN3-14A	10	AN3-14	5	AN4-15A	10	AN4-14	5	AN5-16A	10	AN5-16	5	AN6-16A	5	AN6-16	5
AN3-15A	10	AN3-15	5	AN4-16A	10	AN4-15	5	AN5-17A	5	AN5-17	5	AN6-17A	5	AN6-17	5
AN3-16A	10	AN3-16	5	AN4-17A	10	AN4-16	5	AN5-20A	5	AN5-20	5	AN6-20A	5	AN6-20	5
AN3-17A	10	AN3-17	5	AN4-20A	10	AN4-17	5	AN5-21A	5	AN5-21	5	AN6-21A	5	AN6-21	5
AN3-20A	10	AN3-20	5	AN4-21A	10	AN4-20	5	AN5-22A	5	AN5-22	5	AN6-22A	5	AN6-22	5
AN3-21A	10	AN3-21	5	AN4-22A	10	AN4-21	5	AN5-23A	5	AN5-23	5	AN6-23A	5	AN6-23	5
AN3-22A	10	AN3-22	5	AN4-23A	10	AN4-22	5	AN5-24A	5	AN5-24	5	AN6-24A	5	AN6-24	5
AN3-23A	10	AN3-23	5	AN4-24A	10	AN4-23	5	AN5-25A	5	AN5-25	5	AN6-25A	5	AN6-25	5
AN3-24A	10	AN3-24	5	AN4-25A	10	AN4-24	5	AN5-26A	5	AN5-26	5	AN6-26A	5	AN6-26	5
AN3-25A	10	AN3-25	5	AN4-26A	10	AN4-25	5	AN5-27A	5	AN5-27	5	AN6-27A	5	AN6-27	5
AN3-26A	10	AN3-26	5	AN4-27A	10	AN4-26	5	AN5-30A	5	AN5-30	5	AN6-30A	5	AN6-30	5
AN3-27A	10	AN3-27	5	AN4-30A	10	AN4-27	5	AN5-31A	5	AN5-31	5	AN6-31A	5	AN6-31	5
AN3-30A	10	AN3-30	5	AN4-31A	5	AN4-30	5	AN5-32A	5	AN5-32	5	AN6-32A	5	AN6-32	5
AN3-31A	10	AN3-31	5	AN4-32A	5	AN4-31	5	AN5-33A	5	AN5-33	5	AN6-33A	5	AN6-33	5
AN3-32A	10	AN3-32	5	AN4-33A	5	AN4-32	5	AN5-34A	5	AN5-34	5	AN6-34A	5	AN6-34	5
						950 Pieces								530 Pieces	

FBO NUT KIT **(Incl in FBO System)** **FBO SCREW KIT** **(Included in FBO System)** **FBO WASHER KIT** **(Included in FBO Sytem)**

DRAWER9 DK-NUT1		DRAWER10 DK-NUT2		DRAWER11 DK-SCREW1		DRAWER12 DK-SCREW2		DRAWER13 DK-SCREW3		DRAWER14 DK-SCREW4		DRAWER15 DK-WASHER1		DRAWER16 DK-WASHER2	
Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY	Part#	QTY
AN310-3	25	AN364-428	50	AN526-440R8	100	AN507-1032R10	100	AN526C440R4	100	4RX1/4THAS	100	AN935-6	100	AN960C6L	200
AN310-4	25	AN365-440	50	AN526-632R6	100	AN507-1032R12	100	AN526C440R6	100	4RX3/8THAS	100	AN935-8	100	AN960C8L	200
AN310-5	25	AN365-632	50	AN526-632R8	100	AN507-428R8	100	AN526C632R6	100	4RX1/2THAS	100	AN935-10	100	AN960C10L	200
AN315-3	25	AN365-832	100	AN526-632R10	100	AN507B632R16	100	AN526C632R8	100	4RX5/8THAS	100	AN936A6	100	AN960C416L	200
AN315-4	25	AN365-1032	100	AN526-632R12	100	MS35214-30	100	AN526C632R10	100	6RX3/8THAS	100	AN936A8	100	AN960C516L	100
AN315-5	25	AN365-428	100	AN526-832R6	100	AN509-10R6	100	AN526C832R6	100	6RX1/2THAS	100	AN936A10	100	#6 CSK WS	50
AN316-4	25	AN365-524	25	AN526-832R8	100	AN509-10R7	100	AN526C832R8	100	6RX5/8THAS	100	AN936A416	100	#8 CSK WS	50
AN316-5	25	MS21044C06	25	AN526-832R10	100	AN509-10R8	100	AN526C832R10	100	8RX3/8THAS	100	AN936A516	100	#10 CSK WS	50
AN320-3	25	MS21044C08	25	AN526-832R12	100	AN509-10R10	100	AN526C832R12	50	8RX1/2THAS	100	AN960-4	100	MS27129-6	100
AN320-4	25	MS21044C3	25	AN526-1032R8	100	MS27039-0806	100	AN526C832R16	50	8RX5/8THAS	100	AN960-6	200	MS27129-9	100
AN320-5	25	AN363-1032	25	AN526-1032R10	100	MS27039-0808	100	AN526C1032R8	100	8RX3/4THAS	100	AN960-8	200	MS27129-12	100
AN340-4	50	AN363-428	25	AN526-1032R12	100	MS27039-0809	100	AN526C1032R10	100	10RX1/2THAS	100	AN960-10	200	#6L NYLON	100
AN340-6	50	AN363-524	10	AN507-440R12	100	MS27039-0812	100	AN526C1032R12	50	10RX5/8THAS	100	AN960-416	200	#8L NYLON	100
AN340-8	50	NAS679A3	25	AN507-632R6	100	MS27039-0814	100	AN526C1032R16	50	10RX3/4THAS	50	AN960-516	100	#10L NYLON	100
AN340B6	25	NAS679A4	25	AN507-632R8	100	6RX1/2THB	100	AN507C632R6	100	4RX1/2OHAS	100	AN960-616	50	AN380-1-2	100
AN345-10	50	NAS679A5	10	AN506-632R10	100	8RX1/2THB	100	AN507C632R8	100	6RX1/2OHAS	100	AN960-716	50	AN380-2-2	100
AN345-416	50	MS21042-3	25	AN507-632R12	100	MS21207-8-8	100	AN507C632R10	100	8RX5/8OHAS	100	AN970-3	50	AN380-2-4	100
AN340C8	25	MS21042-4	25	AN507-832R6	100	MS21207-10-10	100	AN507C832R8	100	10RX5/8OHAS	50	AN970-4	50	AN380-2-6	100
AN340C10	25	MS21042-5	5	AN507-832R8	100	4RX3/8THA	100	AN507C832R10	100	6RX1/2FHAS100	100	AN970-5	20	AN380-2-8	100
AN340C416	25	A1784-6Z-1	25	AN507-832R10	100	6RX3/8THA	100	AN507C832R12	100	8RX1/2FHAS100	100	AN960-4L	100	AN380-3-2	100
AN364-440	50	A1348-8Z-1	25	AN507-832R12	100	6RX1/2THA	100	AN507C1032R8	100	10RX1/2FHAS10(	100	AN960-6L	200	AN380-3-4	100
AN364-632	100	A1778-8Z-1	25	AN507-832R16	100	8RX1/2THA	100	AN507C1032R10	100	6RX1/2FHBS100	100	AN960-8L	200	AN380-3-6	100
AN364-832	100	A1789-8Z-1	25	AN507-1032R6	100	8RX5/8THA	100	AN507C1032R12	100	8RX1/2FHBS100	100	AN960-10L	200	AN380-3-8	100
AN364-1032	100	130008	10	AN507-1032R8	100	10RX5/8THA	100	AN507C1032R16	100	10RX1/2FHBS10(	100	AN960-416L	200	AN380-4-4	50
		1810 Pieces								9300 Pieces		AN960-516L	100	AN380-4-6	50
														AN380-4-8	50
														AN380-5-10	35
														AN381-1-12	100
														AN381-2-12	100
														AN381-3-16	100
														6045 Pieces	

FBO RIVET KIT **(Included in FBO System)**

DRAWER17 DK-RIVET1		DRAWER18 DK-RIVET2					
Part#	LBS	Part#	LBS	Part#	LBS	Part#	LBS
MS20470AD3-3	1/8	MS20470AD4-14	1/8	MS20426AD3-3	1/8	MS20426AD4-9	1/8
MS20470AD3-4	1/8	MS20470AD4-16	1/8	MS20426AD3-4	1/8	MS20426AD4-10	1/8
MS20470AD3-5	1/8	MS20470AD5-4	1/8	MS20426AD3-5	1/8	MS20426AD4-12	1/8
MS20470AD3-6	1/8	MS20470AD5-5	1/8	MS20426AD3-6	1/8	MS20426AD4-16	1/8
MS20470AD3-8	1/8	MS20470AD5-6	1/8	MS20426AD3-8	1/8	MS20426AD5-4	1/8
MS20470AD4-3	1/8	MS20470AD5-7	1/8	MS20426AD3-12	1/8	MS20426AD5-5	1/8
MS20470AD4-4	1/8	MS20470AD5-8	1/8	MS20426AD4-3	1/8	MS20426AD5-6	1/8
MS20470AD4-5	1/8	MS20470AD5-10	1/8	MS20426AD4-4	1/8	MS20426AD5-8	1/8
MS20470AD4-6	1/8	MS20470AD5-12	1/8	MS20426AD4-5	1/8	MS20426AD5-10	1/8
MS20470AD4-8	1/8	MS20470AD5-14	1/8	MS20426AD4-6	1/8	MS20426AD5-12	1/8
MS20470AD4-10	1/8	MS20470AD5-16	1/8	MS20426AD4-7	1/8	MS20426AD5-16	1/8
MS20470AD4-12	1/8	MS20470AD6-12	1/8	MS20426AD4-8	1/8	MS20426AD6-12	1/8

See On-Line Purchasing for Pricing

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FBO Plus
HARDWARE KIT SYSTEM (Options)

Kit# **FBO CHERRYMAX**

Part#	Qty
CR3212-4-2	25
CR3212-4-3	25
CR3212-4-4	25
CR3212-4-5	25
CR3213-4-1	25
CR3213-4-2	25
CR3213-4-3	25
CR3213-4-4	25
CR3213-4-5	25
CR3242-4-2	25
CR3242-4-3	25
CR3242-4-4	25
CR3242-4-5	25
CR3243-4-1	25
CR3243-4-2	25
CR3243-4-3	25
CR3243-4-4	25
CR3243-4-5	25
	450

Kit# **FBO ELECTRICAL**

Part#	Qty
FND2622-3	50
FND2216-S3	50
FND2216-4	50
FND2216-5	50
FND2216-6	50
FND2216-8	50
FND1614-M3	50
FND1614-4	50
FND1614-M5	50
FND1614-6	50
FND1614-8	50
FND1210-4	25
FND1210-S6	25
FND1210-9	25
FN8-8	10
FN4-9	10
1582	10
WS2216K	50
WS1614K	50
WS1210K	25
NCL2622	25
NDCW1614	25
NDCW2216	25
C1210	25
2218SDB	50
1614SDB	50
	980

Kit# **FBO CLEKO**

Part#	Qty
C-3/32	25
C-1/8	25
C-5/32	25
C-3/16	25
WNX-3/32	3
WNX-1/8	3
WNX-5/32	3
WNX-3/16	3
125SG	5
126SG	5
C-200	1
	123

Kit# **FBO RIVNUT**

Part#	Qty
A6K75	10
A6K120	10
A8K75	10
A8K120	10
A10K80	10
A10K130	10
A6K106	10
A8K106	10
A10K116	10
200RNC	1
	91

Kit# **FBO GROMMET**

Part#	Qty
MS35489-1	5
MS35489-2	5
MS35489-4	5
MS35489-134	5
MS35489-5	5
MS35489-6	5
MS35489-7	5
MS35489-8	5
MS35489-9	5
MS35489-10	5
MS35489-118	5
MS35489-11	5
MS35489-12	5
MS35489-13	5
MS35489-14	5
MS35489-15	5
MS35489-16	5
MS35489-17	5
MS35489-18	5
MS35489-19	5
MS35489-20	5
MS35489-135	5
MS35489-21	5
MS35489-22	5
	120

Kit# **FBO STAINLESS BOLT**

Part#	Qty
AN3C3A	10
AN3C4A	10
AN3C5A	10
AN3C6A	10
AN3C7A	10
AN3C10A	10
AN3C11A	10
AN3C12A	10
AN3C13A	10
AN4C4A	10
AN4C5A	10
AN4C6A	10
AN4C7A	10
AN4C10A	10
AN4C11A	10
AN4C12A	10
AN4C13A	10
AN4C14A	10
MS21044C3	50
MS21044C4	50
AN960C10	100
AN960C10L	100
AN960C416	100
AN960C416L	100
	680

Kit# **FBO WDG CLAMP**

Part#	Qty
MS21919WDG2	5
MS21919WDG3	5
MS21919WDG4	5
MS21919WDG5	5
MS21919WDG6	5
MS21919WDG7	5
MS21919WDG8	5
MS21919WDG9	5
MS21919WDG10	5
MS21919WDG11	5
MS21919WDG12	5
MS21919WDG13	5
MS21919WDG14	5
MS21919WDG15	5
MS21919WDG16	5
MS21919WDG17	5
MS21919WDG18	5
MS21919WDG19	5
MS21919WDG20	5
MS21919WDG21	5
MS21919WDG22	5
MS21919WDG23	5
MS21919WDG24	5
MS21919WDG25	5
	110

Kit# **FBO PLATENUT-1**

Part#	Qty
MS21047L06	10
MS21047L08	10
MS21047L3	10
MS21049L06	10
MS21049L08	10
MS21049L3	10
MS21051L06	10
MS21051L08	10
MS21051L3	10
MS21053L06	10
MS21053L08	10
MS21053L3	10
MS21055L06	10
MS21055L08	10
MS21055L3	10
MS21057L06	10
MS21057L08	10
MS21057L3	10
MS21059L06	10
MS21059L08	10
MS21059L3	10
MS21061L06	10
MS21061L08	10
MS21061L3	10
	240

Kit# **FBO PLATENUT-2**

Part#	Qty
MS21069L02	10
MS21069L04	10
MS21069L06	10
MS21069L08	10
MS21069L3	10
MS21071L04	10
MS21071L06	10
MS21071L08	10
MS21071L3	10
MS21073L04	10
MS21073L06	10
MS21073L08	10
MS21073L3	10
MS21075L04	10
MS21075L06	10
MS21075L08	10
MS21075L3	10
MS21086L08	10
MS21086L3	10
	190

Kit# **FBO TINNERMAN**

Note (1)

Part#	Qty
A1776-4Z-1	25
A1181-6Z-1	25
A1777-6Z-1	25
A1778-8Z-1	25
A1779-10Z-1	25
A6162-6Z-1	25
A6195-8Z-1	25
A6191-10Z-1	25
A6196-6Z-1	25
A6196-8Z-1	25
A6187-4Z-1	25
A1784-6Z-1	25
A1785-6Z-1	25
A1274-8Z-1	25
A1348-8Z-1	25
A1786-8Z-1	25
A1787-8Z-1	25
A1788-8Z-1	25
A1789-8Z-1	25
A1932-8Z-1	25
A1350-10Z-1	25
A1758-10Z-1	25
A1787-10Z-1	25
A1791-10Z-1	25
	600

Kit# **FBO POP RIVET**

Part#	Qty
AAC-32	100
AAC-34	100
AAC-42	100
AAC-43	100
AAC-44	100
AAC-45	100
AAC-54	100
AAC-64	100
AAP-32	100
AAP-34	100
AAP-36	100
AAP-41	100
AAP-42	100
AAP-43	100
AAP-44	100
AAP-46	100
AAP-52	100
AAP-54	100
AAP-56	100
AAP-64	100
AAL-44	100
AAL-46	100
AAL-64	100
AAL-612	100
	2400

Kit# **FBO INSTRUMENT**

Part#	Qty
MS24693BB4	25
MS24693BB5	100
MS24693BB26	25
MS24693BB28	100
MS24693BB29	25
MS24693BB30	100
MS24693BB31	25
MS24693BB32	100
MS24693BB34	25
MS24693BB36	25
MS24693BB50	25
MS24693BB52	100
MS35214-16	100
MS35214-18	25
MS35214-27	100
MS35214-29	100
MS35214-31	100
MS35214-32	25
MS35214-33	25
MS35214-42	25
MS35214-44	25
MS35214-47	25
MS35214-56	25
MS35214-60	25
	1275

Note (1) Many **Tinnerman** parts are no longer available. Some items may be deleted or substituted.

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HARDWARE PACK SYSTEM

SKYBOLT created the Hardware Pack System to offer packaged hardware selections that are very economical. Selections include common hardware in both Steel and Stainless. Each Pack contains extra labels for use on your own cabinets.



SYSTEM SPECIAL

Purchase the Basic Pack System & Receive Discount

PK-AN3A	PK-SMS2	See On-Line Purchasing
PK-AN960	PK-SMS3	
PK-AN365	PK-AN507C	
PK-AN380	PK-AN526C	
PK-RIVET		

PK-SMS1
Steel

Part#	Qty
6RX1/2THA	100
8RX1/2THA	100
10RX1/2THA	100
10RX5/8THA	100
6RX1/2THB	100
8RX1/2THB	100
10RX1/2THB	100
10RX5/8THB	100
	800

PK-SMS2
Stainless

Part#	Qty
6RX1/2THAS	100
8RX1/2THAS	100
10RX1/2THAS	100
10RX5/8THAS	100
6RX1/2THBS	100
8RX1/2THBS	100
10RX1/2THBS	100
10RX1/2THBS	100
	800

PK-SMS3
Stainless

Part#	Qty
6RX1/2FHAS100	100
8RX1/2FHAS100	100
10RX1/2FHAS100	100
6RX1/2FHBS100	100
8RX1/2FHBS100	100
10RX1/2FHBS100	100
	600

PK-AN507
Steel

Part#	Qty
AN507-632R8	100
AN507-832R8	100
AN507-832R10	100
AN507-1032R8	100
AN507-1032R10	100
	500

PK-AN507C
Stainless

Part#	Qty
AN507C632R8	100
AN507C832R8	100
AN507C832R10	100
AN507C1032R8	100
AN507C1032R10	100
	500

PK-AN526
Steel

Part#	Qty
AN526-440R8	100
AN526-632R6	100
AN526-832R8	100
AN526-832R10	100
AN526-1032R8	100
AN526-1032R10	100
	600

PK-AN526C
Stainless

Part#	Qty
AN526C440R8	100
AN526C632R6	100
AN526C832R8	100
AN526C832R10	100
AN526C1032R8	100
AN526C1032R10	100
	600

PK-AN310
Steel

Part#	Qty
AN310-4	25
AN310-5	25
AN310-6	25
AN320-3	25
AN320-4	25
	125

PK-AN363
Steel

Part#	Qty
AN363-632	25
AN363-832	25
AN363-1032	25
AN363-428	25
AN363-516	25
AN363-616	25
	150

PK-AN364
Steel

Part#	Qty
AN364-440	25
AN364-632	25
AN364-832	25
AN364-1032	25
AN364-428	25
	125

PK-AN365
Steel

Part#	Qty
AN365-632	25
AN365-832	25
AN365-1032	25
AN365-428	25
AN365-524	25
	125

PK-AN380
Steel

Part#	Qty
AN380-1-3	100
AN380-2-1	100
AN380-2-2	100
AN380-2-3	100
AN380-3-3	100
AN380-3-4	100
	600

PK-AN960
Steel

Part#	Qty
AN960-6	100
AN960-8	100
AN960-10	100
AN960-416	100
AN960-516	100
AN960-616	100
AN960-6L	100
AN960-8L	100
AN960-10L	100
AN960-416L	100
AN960-516L	100
AN960-616L	100
	1200

PK-AN960C
Stainless

Part#	Qty
AN960C6	100
AN960C8	100
AN960C10	100
AN960C416	100
AN960C6L	100
AN960C8L	100
AN960C10L	100
AN960C416L	100
	800

PK-AN3A
Steel

Part#	Qty
AN3-3A	25
AN3-4A	25
AN3-5A	25
AN3-6A	25
AN3-7A	25
AN3-10A	25
AN3-11A	10
AN3-12A	10
AN3-13A	10
AN3-14A	10
AN3-15A	10
AN3-16A	10
AN3-17A	10
AN3-20A	10
AN4-4A	25
AN4-5A	25
AN4-6A	25
AN4-7A	25
AN4-10A	25
AN4-11A	10
AN4-12A	10
AN4-13A	10
AN4-14A	10
AN4-15A	10
AN4-16A	10
AN4-17A	10
AN4-20A	10
	435

PK-AN3
Steel

Part#	Qty
AN3-4	10
AN3-5	10
AN3-6	10
AN3-7	10
AN3-10	10
AN3-11	10
AN3-12	10
AN3-13	5
AN3-14	5
AN3-15	5
AN4-4	10
AN4-5	10
AN4-6	10
AN4-7	10
AN4-10	10
AN4-11	10
AN4-12	10
AN4-13	5
AN4-14	5
AN4-15	5
AN4-16	5
AN4-17	5
AN4-20	5
	185

PK-RIVET
Alum

Part#	Qty
MS20426AD3-3	1/8
MS20426AD3-4	1/8
MS20426AD3-6	1/8
MS20426AD4-4	1/8
MS20426AD4-5	1/8
MS20426AD4-6	1/8
MS20426AD5-6	1/8
MS20426AD3-3	1/8
MS20470AD4-4	1/8
MS20470AD4-5	1/8
MS20470AD4-6	1/8
MS20470AD4-8	1/8
MS20470AD4-12	1/8
MS20470AD5-4	1/8
MS20470AD5-5	1/8
MS20470AD5-6	1/8
MS20470AD5-8	1/8
MS20470AD5-12	1/8

PK-AN381
Stainless

Part#	Qty
AN381-1-6	100
AN381-2-6	100
AN381-2-8	100
AN381-3-8	100
AN381-3-12	100
	500

PK-HALF PAK
Half Length Rivets

MS20426AD3-3.5C	100
MS20426AD3-4.5C	100
MS20426AD3-5.5C	100
MS20426AD4-3.5C	100
MS20426AD4-4.5C	100
MS20426AD4-5.5C	100
MS20470AD3-3.5C	100
MS20470AD3-4.5C	100
MS20470AD3-5.5C	100
MS20470AD4-3.5C	100
MS20470AD4-4.5C	100
MS20470AD4-5.5C	100
	1200

PK-CHERRY1
CherryMax
Nominal

Part#	Qty
CR3212-4-1	10
CR3212-4-2	10
CR3212-4-3	10
CR3212-4-4	10
CR3212-4-5	10
CR3213-4-2	10
CR3213-4-3	10
CR3213-4-4	10
CR3213-4-5	10
	90

PK-CHERRY2
CherryMax
Oversize

Part#	Qty
CR3242-4-1	10
CR3242-4-2	10
CR3242-4-3	10
CR3242-4-4	10
CR3242-4-5	10
CR3243-4-2	10
CR3243-4-3	10
CR3243-4-4	10
CR3243-4-5	10
	90

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Some Part#s Special Order Only

HARDWARE PACK SYSTEM

PK-AN806D

Part#	Qty
AN806-2D	2
AN806-3D	2
AN806-4D	2
AN806-5D	2
AN806-6D	2
AN806-8D	2
AN806-10D	2
AN806-12D	2
	16

PK-AN815D

Part#	Qty
AN815-2D	2
AN815-3D	2
AN815-4D	2
AN815-5D	2
AN815-6D	2
AN815-8D	2
AN815-10D	2
AN815-12D	2
	16

PK-AN816D

Part#	Qty
AN816-2D	2
AN816-3D	2
AN816-4D	2
AN816-5D	2
AN816-6D	2
AN816-8D	2
AN816-10D	2
AN816-12D	2
	16

PK-AN822D

Part#	Qty
AN822-2D	2
AN822-3D	2
AN822-4D	2
AN822-5D	2
AN822-6D	2
AN822-8D	2
AN822-10D	2
AN822-12D	2
	16

PK-AN929D

Part#	Qty
AN929-2D	2
AN929-3D	2
AN929-4D	2
AN929-5D	2
AN929-6D	2
AN929-8D	2
AN929-10D	2
AN929-12D	2
	16

PK-NICOPRESS

Part#	Qty
428-2-VC	25
428-3-VG	25
428-4-VM	25
428-6-VX	10
18-2-G	25
18-3-M	25
	135

PK-AN340

Part#	Qty
AN340-4	50
AN340-6	50
AN340B6	25
AN340-8	50
AN340-10	25
AN340-416	50
	250

PK-AN936A

Part#	Qty
AN936A4	100
AN936A6	100
AN936A8	100
AN936A10	100
AN936A416	100
AN936A516	100
	600

PK-AN525

Part#	Qty
AN525-832R7	50
AN525-832R8	50
AN525-832R9	50
AN525-10R7	50
AN525-10R8	50
AN525-10R10	50
	300

PK-AN509

Part#	Qty
AN509-8R6	50
AN509-8R8	50
AN509-10R6	50
AN509-10R7	50
AN509-10R8	50
AN509-416R7	50
	300

PK-MS27039

Part#	Qty
MS27039-0806	50
MS27039-0807	50
MS27039-0809	50
MS27039-0812	50
MS27039-1-08	50
MS27039-1-09	50
	300

PK-DIMPLE WASHER

Part#	Qty
DP1075-12SS	50
DP1080-17SS	50
DP1085-20SS	50
MS27129-6	100
MS27129-9	100
MS27129-12	100
	450

PK-AN515

Part#	Qty
AN515-4R6	50
AN515-6R8	50
AN515-8R8	50
AN515-8R10	50
AN515-10R8	50
AN515-10R10	50
	300

PK-MS35214

Part#	Qty
MS24693BB32	50
MS35214-16	50
MS35214-27	50
MS35214-29	50
MS35214-30	50
MS35214-31	50
	300

PK-POP RIVET

Part#	Qty
AAP-32	100
AAP-43	100
AAP-44	100
AAP-54	100
AAL-44	100
AAL-66	100
	600

PK-ZLoc1

Part#	Qty
ZGO65-40	10
ZGO65-50	10
ZGO65-55	10
ZGO65-60	10
SK6-375	25
	65

PK-ZLoc2

Part#	Qty
ZGF65-40	10
ZGF65-50	10
ZGF65-55	10
ZGF65-60	10
SK6-375	25
	65

PK-CLEKO

Part#	Qty
C-3/32	25
C-1/8	25
C-5/32	25
C-3/16	25
	100

PK-EHF5

Part#	Qty
SKEHF5-40	10
SKEHF5-50	10
SKEHF5-55	10
SKEHF5-60	10
SK5-325	25
	65

PK-EHF6

Part#	Qty
SKEHF6-50	10
SKEHF6-55	10
SKEHF6-60	10
SKEHF6-65	10
SK6-375	25
	65

PK-SOUTHCO1

Part#	Qty
82-11-120-20	10
82-11-140-20	10
82-11-160-20	10
82-11-180-20	10
82-11-200-20	10
82-32-201-20	50
	100

PK-SOUTHCO2

Part#	Qty
82-19-120-20	10
82-19-140-20	10
82-19-160-20	10
82-19-180-20	10
82-19-200-20	10
82-32-201-20	50
	100

PK-ELEC

Part#	Qty
FND1210-S6	25
FND1210-9	25
FND1614-4	25
FND2216-4	25
FND2622-3	25
NCL1210	25
NCL1614	25
NCL2216	25
NCL2622	25
1614SDB	25
2218SDB	25
FV2216L	25
FV1614K	25
	325

PK-HST

Part#	Qty
HST-16	5
HST-32	5
HST-18	5
HST-36	5
HST-14	5
HST-56	5
HST-38	5
HST-12	5
	40

PK-INTERIOR

Part#	Qty
MS27129-3	100
MS27129-6	100
MS27129-12	100
NAS390B4P	100
NAS390B6P	100
NAS390B8P	100
4RX3/8OHAS	100
4RX1/2OHAS	100
4RX5/8OHAS	100
6RX3/8OHAS	100
6RX1/2OHAS	100
6RX5/8OHAS	100
6RX3/4OHAS	100
8RX1/2OHAS	100
8RX5/8OHAS	100
8RX3/4OHAS	100
8RX1OHAS	100
10RX1/2OHAS	50
10RX5/8OHAS	50
10RX3/4OHAS	50
10RX1OHAS	50
	1900

SK-6SS

Part#	Qty
AN526C832R8	25
AN526C1032R8	25
MS24693-C50	25
MS24693-C272	25
8RX1/2THBS	25
10RX1/2THBS	25
	150

SK-24SS

Part#	Qty
AN526C632R6	25
AN526C632R8	25
AN526C832R8	25
AN526C1032R10	25
AN526C832R10	25
MS24693-C26	25
MS24693-C28	25
MS24693-C50	25
MS24693-C51	25
MS24693-C272	25
MS24693-C273	25
6RX1/2THBS	25
8RX1/2THBS	25
10RX1/2THBS	25
6RX1/2FHBS100	25
8RX1/2FHBS100	25
10RX1/2FHBS100	25
10RX5/8FHBS100	25
DP1075-12SS	25
DP1080-17SS	25
DP1085-20SS	25
NAS1515-H-06L	100
NAS1515-H-08L	100
NAS1515-H-3L	100
	825

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AN Fitting Chart



Pipe Thread Chart



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Some Part#s Special Order Only

AN-MS Aircraft Fittings (JIC 37Deg Flare)

SKYBOLT maintains one of the best fitting inventories available. We are heavily committed to fluid transfer components.

Example Fitting Code: **AN816-8-6D**

-8 refers to Tube Size (AN Flare) -6 refers to Pipe Size

AN804



Tee- Flared Tube with Bulkhead on Run

AN804 Steel	AN804 Alum	Tube OD	Thread Size
AN804-2	AN804D2	1/8	5/16-24
AN804-3	AN804D3	3/16	3/8-24
AN804-4	AN804D4	1/4	7/16-20
AN804-5	AN804D5	5/16	1/2-20
AN804-6	AN804D6	3/8	9/16-18
AN804-8	AN804D8	1/2	3/4-16
AN804-10	AN804D10	5/8	7/8-14
AN804-12	AN804D12	3/4	1-1/16-12
AN804-16	AN804D16	1	1-5/16-12

AN806



Plug Flared Tube

AN806 Steel	AN806 Alum	Tube OD	Thread Size
AN806-2	AN8062D	1/8	5/16-24
AN806-3	AN8063D	3/16	3/8-24
AN806-4	AN8064D	1/4	7/16-20
AN806-5	AN8065D	5/16	1/2-20
AN806-6	AN8066D	3/8	9/16-18
AN806-8	AN8068D	1/2	3/4-16
AN806-10	AN80610D	5/8	7/8-14
AN806-12	AN80612D	3/4	1-1/16-12
AN806-16	AN80616D	1	1-5/16-12

AN814



Plug and Bleeder Screw Thread

AN814 Steel	AN814 Alum	Tube OD
AN814-2	AN814-2D	1/8
AN814-3	AN814-3D	3/16
AN814-4	AN814-4D	1/4
AN814-5	AN814-5D	5/16
AN814-6	AN814-6D	3/8
AN814-8	AN814-8D	1/2
AN814-10	AN814-10D	5/8
AN814-12	AN814-12D	3/4
AN814-16	AN814-16D	1

AN815



Union Flared Tube

AN815 Steel	AN815 Alum	Tube OD	Thread Size
AN815-2	AN815-2D	1/8	5/16-24
AN815-3	AN815-3D	3/16	3/8-24
AN815-4	AN815-4D	1/4	7/16-20
AN815-5	AN815-5D	5/16	1/2-20
AN815-6	AN815-6D	3/8	9/16-18
AN815-8	AN815-8D	1/2	3/4-16
AN815-10	AN815-10D	5/8	7/8-14
AN815-12	AN815-12D	3/4	1-1/16-12
AN815-16	AN815-16D	1	1-5/16-12

AN816



Adapter-Straight Pipe to Tube

AN816 Steel	AN816 Alum	Tube OD	Pipe Size
AN816-2	AN816-2D	1/8	1/8
AN816-3	AN816-3D	3/16	1/8
AN816-4	AN816-4D	1/4	1/8
AN816-4-4	AN816-4-4D	1/4	1/4
AN816-5	AN816-5D	5/16	1/8
AN816-5-4	AN816-5-4D	5/16	1/4
AN816-6-2	AN816-6-2D	3/8	1/8
AN816-6-2	AN816-6-2D	3/8	1/4
AN816-6-6	AN816-6-6D	3/8	3/8
AN816-6-8	AN816-6-8D	3/8	1/2
AN816-7	AN816-7D	1/2	1/4
AN816-8	AN816-8D	1/2	3/8
AN816-10	AN816-10D	5/8	1/2
AN816-10-12	AN816-10-12D	5/8	3/4
AN816-12-8	AN816-12-8D	3/4	1/2
AN816-12	AN816-12D	3/4	3/4
AN816-12-16	AN816-12-16D	3/4	1
AN816-16-12	AN816-16-12D	1	3/4
AN816-16	AN816-16D	1	1

AN817



Nut Tube Coupling-Long

AN817 Steel	AN817 Alum	Tube OD	Thread Size
AN817-2	AN817-2D	1/8	5/16-24
AN817- 3	AN817- 3D	3/16	3/8-24
AN817- 4	AN817- 4D	1/4	7/16-20
AN817- 5	AN817- 5D	5/16	1/2-20
AN817- 6	AN817- 6D	3/8	9/16-18
AN817- 8	AN817- 8D	1/2	3/4-16
AN817- 10	AN817- 10D	5/8	7/8-14
AN817- 12	AN817- 12D	3/4	1-1/16-12
AN817- 16	AN817- 16D	1	1-5/16-12

AN818



Nut Tee Coupling-Short

AN818 Steel	AN818 Alum	Tube OD	Thread Size
AN818-2	AN818-2D	1/8	5/16-24
AN818-3	AN818-3D	3/16	3/8-24
AN818-4	AN818-4D	1/4	7/16-20
AN818-5	AN818-5D	5/16	1/2-20
AN818-6	AN818-6D	3/8	9/16-18
AN818-8	AN818-8D	1/2	3/4-16
AN818-10	AN818-10D	5/8	7/8-14
AN818-12	AN818-12D	3/4	1-1/16-12
AN818-16	AN818-16D	1	1-5/16-12

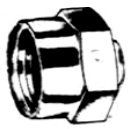
AN819



Sleeve Coupling

AN819 Steel	AN819 Alum	Tube OD
AN819-2	AN819-2D	1/8
AN819-3	AN819-3D	3/16
AN819-4	AN819-4D	1/4
AN819-5	AN819-5D	5/16
AN819-6	AN819-6D	3/8
AN819-8	AN819-8D	1/2
AN819-10	AN819-10D	5/8
AN819-12	AN819-12D	3/4
AN819-16	AN819-16D	1

AN820



Cap Flared Tube Fitting

AN820 Steel	AN820 Alum	Tube OD	Thread Size
AN820-2	AN820-2D	1/8	5/16-24
AN820-3	AN820-3D	3/16	3/8-24
AN820-4	AN820-4D	1/4	7/16-20
AN820-5	AN820-5D	5/16	1/2-20
AN820-6	AN820-6D	3/8	9/16-18
AN820-8	AN820-8D	1/2	3/4-16
AN820-10	AN820-10D	5/8	7/8-14
AN820-12	AN820-12D	3/4	1-1/16-12
AN820-16	AN820-16D	1	1-5/16-12

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AN-MS Aircraft Fittings (JIC 37Deg Flare)

SKYBOLT maintains one of the best fitting inventories available. We are heavily committed to fluid transfer components.

Example Fitting Code: **AN816-8-6D**

-8 refers to Tube Size (AN Flare) -6 refers to Pipe Size

AN821



Elbow
Flared Tube 90Deg

AN821 Steel	AN821 Alum	Tube OD	Thread Size
AN821-2	AN821-2D	1/8	5/16-24
AN821-3	AN821-3D	3/16	3/8-24
AN821-4	AN821-4D	1/4	7/16-20
AN821-5	AN821-5D	5/16	1/2-20
AN821-6	AN821-6D	3/8	9/16-18
AN821-8	AN821-8D	1/2	3/4-16
AN821-10	AN821-10D	5/8	7/8-14
AN821-12	AN821-12D	3/4	1-1/16-12
AN821-16	AN821-16D	1	1-5/16-12

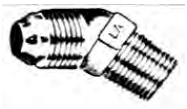
AN822



Elbow-Flared Tube
and Pipe Thread 90Deg

AN822 Steel	AN822 Alum	Tube OD	Pipe Size
AN822-2	AN822-2D	1/8	1/8
AN822-3	AN822-3D	3/16	1/8
AN822-4	AN822-4D	1/4	1/8
AN822-4-4	AN822-4-4D	1/4	1/4
AN822-5	AN822-5D	5/16	1/8
AN822-5-4	AN822-5-4D	5/16	1/4
AN822-6-2	AN822-6-2D	3/8	1/8
AN822-6	AN822-6D	3/8	1/4
AN822-6-6	AN822-6-6D	3/8	3/8
AN822-6-8	AN822-6-8D	3/8	1/2
AN822-7	AN822-7D	1/2	1/4
AN822-8	AN822-8D	1/2	3/8
AN822-10	AN822-10D	5/8	1/2
AN822-10-12	AN822-10-12D	5/8	3/4
AN822-12-8	AN822-12-8D	3/4	1/2
AN822-12-8	AN822-12-8D	3/4	3/4
AN822-12-16	AN822-12-16D	3/4	1
AN822-16-12	AN822-16-12D	1	3/4
AN822-16	AN822-16 D	1	1

AN823



Elbow-Flared Tube
and Pipe Thread 45Deg

AN823 Steel	AN823 Alum	Tube OD	Pipe Size
AN823-2	AN823-2D	1/8	1/8
AN823-3	AN823-3D	3/16	1/8
AN823-4	AN823-4D	1/4	1/8
AN823-4-4	AN823-4-4D	1/4	1/4
AN823-5	AN823-5D	5/16	1/8
AN823-5-4	AN823-5-4D	5/16	1/4
AN823-6-2	AN823-6-2D	3/8	1/8
AN823-6	AN823-6D	3/8	1/4
AN823-6-6	AN823-6-6D	3/8	3/8
AN823-6-8	AN823-6-8D	3/8	1/2
AN823-7	AN823-7D	1/2	1/4
AN823-8	AN823-8D	1/2	3/8
AN823-10	AN823-10D	5/8	1/2
AN823-10-12	AN823-10-12D	5/8	3/4
AN823-12-8	AN823-12-8D	3/4	1/2
AN823-12-8	AN823-12-8D	3/4	3/4
AN823-12-16	AN823-12-16D	3/4	1
AN823-16-12	AN823-16-12D	1	3/4
AN823-16	AN823-16 D	1	1

AN824



Tee
Flared Tube

AN824 Steel	AN824 Alum	Tube OD
AN824-2	AN824-2D	1/8
AN824-3	AN824-3D	3/16
AN824-4	AN824-4D	1/4
AN824-5	AN824-5D	5/16
AN824-6	AN824-6D	3/8
AN824-8	AN824-8D	1/2
AN824-10	AN824-10D	5/8
AN824-12	AN824-12D	3/4
AN824-16	AN824-16D	1

AN825



Tee-Flared Tube
with Pipe Thread on Side

AN825 Steel	AN825 Alum	Tube OD	Pipe Size
AN825-2	AN825-2D	1/8	1/8
AN825-3	AN825-3D	3/16	1/8
AN825-4	AN825-4D	1/4	1/8
AN825-4-4	AN825-4-4D	1/4	1/4
AN825-5	AN825-5D	5/16	1/8
AN825-5-4	AN825-5-4D	5/16	1/4
AN825-6-2	AN825-6-2D	3/8	1/8
AN825-6	AN825-6D	3/8	1/4
AN825-6-6	AN825-6-6D	3/8	3/8
AN825-6-8	AN825-6-8D	3/8	1/2
AN825-7	AN825-7D	1/2	1/4
AN825-8	AN825-8D	1/2	3/8
AN825-10	AN825-10D	5/8	1/2
AN825-10-12	AN825-10-12D	5/8	3/4
AN825-12-8	AN825-12-8D	3/4	1/2
AN825-12-8	AN825-12-8D	3/4	3/4
AN825-12-16	AN825-12-16D	3/4	1
AN825-16-12	AN825-16-12D	1	3/4
AN825-16	AN825-16 D	1	1

AN826



Tee-Flared Tube
with Pipe Thread on Run

AN826 Steel	AN826 Alum	Tube OD	Pipe Size
AN826-2	AN826-2D	1/8	1/8
AN826-3	AN826-3D	3/16	1/8
AN826-4	AN826-4D	1/4	1/8
AN826-4-4	AN826-4-4D	1/4	1/4
AN826-5	AN826-5D	5/16	1/8
AN826-5-4	AN826-5-4D	5/16	1/4
AN826-6-2	AN826-6-2D	3/8	1/8
AN826-6	AN826-6D	3/8	1/4
AN826-6-6	AN826-6-6D	3/8	3/8
AN826-6-8	AN826-6-8D	3/8	1/2
AN826-7	AN826-7D	1/2	1/4
AN826-8	AN826-8D	1/2	3/8
AN826-10	AN826-10D	5/8	1/2
AN826-10-12	AN826-10-12D	5/8	3/4
AN826-12-8	AN826-12-8D	3/4	1/2
AN826-12-8	AN826-12-8D	3/4	3/4
AN826-12-16	AN826-12-16D	3/4	1
AN826-16-12	AN826-16-12D	1	3/4
AN826-16	AN826-16 D	1	1

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AN827



Cross
Flared Tube

AN827 Steel	AN827 Alum	Tube OD	Thread Size
AN827-2	AN827-2D	1/8	5/16-24
AN827-3	AN827-3D	3/16	3/8-24
AN827-4	AN827-4D	1/4	7/16-20
AN827-5	AN827-5D	5/16	1/2-20
AN827-6	AN827-6D	3/8	9/16-18
AN827-8	AN827-8D	1/2	3/4-16
AN827-10	AN827-10D	5/8	7/8-14
AN827-12	AN827-12D	3/4	1-1/16-12
AN827-16	AN827-16D	1	1-5/16-12

AN832



Union-Flared Tube
Bulkhead

AN832 Steel	AN832 Alum	Tube OD	Thread Size
AN832-2	AN832-2D	1/8	5/16-24
AN832-3	AN832-3D	3/16	3/8-24
AN832-4	AN832-4D	1/4	7/16-20
AN832-5	AN832-5D	5/16	1/2-20
AN832-6	AN832-6D	3/8	9/16-18
AN832-8	AN832-8D	1/2	3/4-16
AN832-10	AN832-10D	5/8	7/8-14
AN832-12	AN832-12D	3/4	1-1/16-12
AN832-16	AN832-16D	1	1-5/16-12

AN833



Elbow-Flared Tube
and Bulkhead

AN833 Steel	AN833 Alum	Tube OD	Thread Size
AN833-2	AN833-2D	1/8	5/16-24
AN833-3	AN833-3D	3/16	3/8-24
AN833-4	AN833-4D	1/4	7/16-20
AN833-5	AN833-5D	5/16	1/2-20
AN833-6	AN833-6D	3/8	9/16-18
AN833-8	AN833-8D	1/2	3/4-16
AN833-10	AN833-10D	5/8	7/8-14
AN833-12	AN833-12D	3/4	1-1/16-12
AN833-16	AN833-16D	1	1-5/16-12

AN834



Tee-Flared
Bulkhead Tube

AN834 Steel	AN834 Alum	Tube OD	Thread Size
AN834-2	AN834-2D	1/8	5/16-24
AN834-3	AN834-3D	3/16	3/8-24
AN834-4	AN834-4D	1/4	7/16-20
AN834-5	AN834-5D	5/16	1/2-20
AN834-6	AN834-6D	3/8	9/16-18
AN834-8	AN834-8D	1/2	3/4-16
AN834-10	AN834-10D	5/8	7/8-14
AN834-12	AN834-12D	3/4	1-1/16-12
AN834-16	AN834-16D	1	1-5/16-12

AN837



Elbow-Flared Tube
Bulkhead 45Deg

AN816 Steel	AN816 Alum	Tube OD	Thread Size
AN837-2	AN837-2D	1/8	5/16-24
AN837-3	AN837-3D	3/16	3/8-24
AN837-4	AN837-4D	1/4	7/16-20
AN837-5	AN837-5D	5/16	1/2-20
AN837-6	AN837-6D	3/8	9/16-18
AN837-8	AN837-8D	1/2	3/4-16
AN837-10	AN837-10D	5/8	7/8-14
AN837-12	AN837-12D	3/4	1-1/16-12
AN837-16	AN837-16D	1	1-5/16-12

AN838



Hose to
Bulkhead

AN838 Steel	AN838 Alum	Hose ID	Tube OD	Thread Size
AN838-4	AN838-4D	1/4	1/4	7/16-20
AN838-6	AN838-6D	3/8	3/8	1/2-20
AN838-8	AN838-8D	1/2	1/2	9/16-18
AN838-10	AN838-10D	5/8	5/8	3/4-16
AN838-12	AN838-12D	3/4	3/4	7/8-14
AN838-16	AN838-16D	1	1	1-1/16-12
AN838-20	AN838-20D	1-1/4	1-1/4	1-5/16-12
AN838-24	AN838-24D	1-1/2	1-1/2	1-7/8-12

AN840



Adapter-Hose
to Pipe Thread

AN840 Steel	AN840 Alum	Hose ID	Pipe Size
AN840-4	AN840-4D	1/4	1/8
AN840-6	AN840-6D	3/8	1/4
AN840-8	AN840-8D	1/2	3/8
AN840-9	AN840-9D	5/8	3/8
AN840-10	AN840-10D	5/8	1/2
AN840-11	AN840-11D	3/4	3/8
AN840-12	AN840-12D	3/4	3/4
AN840-13	AN840-13D	1	3/8
AN840-16	AN840-16D	1	3/4

AN842



Elbow-Pipe Thread
and Hose 90Deg

AN842 Steel	AN842 Alum	Hose ID	Pipe Size
AN842-2	AN842-2D	1/4	1/8
AN842-6	AN842-6D	3/8	1/4
AN842-8	AN842-8D	1/2	3/8
AN842-10	AN842-10D	5/8	1/2
AN842-12	AN842-12D	3/4	3/4
AN842-16	AN842-16D	1	3/4
AN842-17	AN842-17D	1	1
AN842-20	AN842-20D	1-1/4	1-1/4
AN842-21	AN842-21D	1-1/4	1

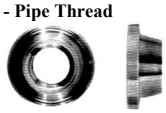
AN844



Elbow-Pipe Thread
and Hose 45Deg

AN844 Steel	AN844 Alum	Tube OD	Pipe Size
AN844-4	AN844-4D	1/4	1/8
AN844-6	AN844-6D	3/8	1/4
AN844-8	AN844-8D	1/2	3/8
AN844-10	AN844-10D	5/8	1/2
AN844-12	AN844-12D	3/4	3/4
AN844-16	AN844-16D	1	3/4
AN844-17	AN844-17D	1	1
AN844-20	AN844-20D	1-1/4	1-1/4
AN844-21	AN844-21D	1-1/4	1

Weld Bung - Pipe Thread



6061-T6 Aluminum

SK870 Alum	Pipe Size
SK870-2D	1/8
SK870-4D	1/4
SK870-6D	3/8
SK870-8D	1/2
SK870-10D	5/8
SK870-12D	3/4
SK870-16D	1

AN871



Flared-Straight Thread
Boss Welding (Oring)

AN871 Steel	AN871 Alum	Thread Size
AN871-4	AN871-4D	7/16-20
AN871-6	AN871-6D	1/2-20
AN871-8	AN871-8D	9/16-18
AN871-10	AN871-10D	3/4-16
AN871-12	AN871-12D	7/8-14
AN871-16	AN871-16D	1-1/16-12
AN871-20	AN871-20D	1-5/16-12
AN871-24	AN871-24D	1-7/8-12

AN893



Bushing-Screw Thread
Reducing (Oring)

AN893 Steel	AN893 Alum	Internal Tube OD	External Tube OD
AN893-1	AN893-1D	1/4	5/16
AN893-2	AN893-2D	1/4	3/8
AN893-3	AN893-3D	1/4	1/2
AN893-31	AN893-31D	1/4	5/8
AN893-4	AN893-4D	1/4	3/4
AN893-5	AN893-5D	1/4	1
AN893-6	AN893-6D	1/4	1-1/4
AN893-7	AN893-7D	5/16	3/8
AN893-8	AN893-8D	5/16	1/2
AN893-81	AN893-81D	5/16	5/8
AN893-9	AN893-9D	5/16	3/4
AN893-10	AN893-10D	5/16	1
AN893-11	AN893-11D	5/16	1-1/4
AN893-12	AN893-12D	3/8	1/2
AN893-121	AN893-121D	3/8	5/8
AN893-13	AN893-13D	3/8	3/4
AN893-14	AN893-14D	3/8	1
AN893-15	AN893-15D	3/8	1-1/4
AN893-151	AN893-151D	1/2	5/8
AN893-16	AN893-16D	1/2	3/4
AN893-17	AN893-17D	1/2	1

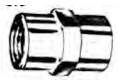
AN894



Bushing-Screw Thread
Expander (Oring)

AN894 Steel	AN894 Alum	Internal Tube OD	External Tube OD
AN894-3-3	AN894D3-2	3/16	1/8
AN894-4-2	AN894D4-2	1/4	1/8
AN894-4-3	AN894D4-3	1/4	3/16
AN894-5-4	AN894D5-4	5/16	1/4
AN894-6-4	AN894D6-4	3/8	1/4
AN894-6-5	AN894D6-5	3/8	5/16
AN894-8-4	AN894D8-4	1/2	1/4
AN894-8-5	AN894D8-5	1/2	5/16
AN894-8-6	AN894D8-6	1/2	3/8
AN894-10-4	AN894D10-4	5/8	1/4
AN894-10-5	AN894D10-5	5/8	5/16
AN894-10-6	AN894D10-6	5/8	3/8
AN894-10-8	AN894D10-8	5/8	1/2
AN894-12-6	AN894D12-6	3/4	3/8
AN894-12-8	AN894D12-8	3/4	1/2
AN894-12-10	AN894D12-10	3/4	5/8
AN894-16-6	AN894D16-6	1	3/8
AN894-16-8	AN894D16-8	1	1/2
AN894-16-10	AN894D16-10	1	5/8
AN894-16-12	AN894D16-12	1	3/4

AN910



Coupling
Pipe Thread

AN910 Copper	AN910 Alum	Pipe Size
AN910-1	AN910-1D	1/8
AN910-2	AN910-2D	1/4
AN910-3	AN910-3D	3/8
AN910-4	AN910-4D	1/2
AN910-6	AN910-6D	3/4
AN910-8	AN910-8D	1
AN910-10	AN910-10D	1-1/4

AN911



Nipple
Pipe Thread

AN911 Copper	AN911 Alum	Pipe Size
AN911-1	AN911-1D	1/8
AN911-2	AN911-2D	1/4
AN911-3	AN911-3D	3/8
AN911-4	AN911-4D	1/2
AN911-6	AN911-6D	3/4
AN911-8	AN911-8D	1
AN911-10	AN911-10D	1-1/4

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AN912



Bushing
Ruducer Pipe

AN912 Copper	AN912 Alum	Pipe Size OD	Pipe Size ID
AN912-1	AN912-1D	1/4	1/8
AN912-2	AN912-2D	3/8	1/4
AN912-3	AN912-3D	3/8	1/8
AN912-4	AN912-4D	1/2	3/8
AN912-5	AN912-5D	1/2	1/4
AN912-6	AN912-6D	1/2	1/8
AN912-7	AN912-7D	3/4	1/2
AN912-8	AN912-8D	3/4	3/8
AN912-9	AN912-9D	3/4	1/4
AN912-10	AN912-10D	1	3/4
AN912-11	AN912-11D	1	1/2
AN912-12	AN912-12D	1	3/8
AN912-13	AN912-13D	1-1/4	3/4

AN913



Plug-Square Head
Pipe Thread

AN913 Copper	AN913 Alum	AN913 Steel	Pipe Size
AN913-1	AN913-1D	1S	1/8
AN913-2	AN913-2D	2S	1/4
AN913-3	AN913-3D	3S	3/8
AN913-4	AN913-4D	4S	1/2
AN913-6	AN913-6D	6S	3/4
AN913-8	AN913-8D	8S	1
AN913-10	AN913-10D	10S	1-1/4

AN914



Elbow-Internal and
External Pipe Thread 90Deg

AN914 Copper	AN914 Alum	304 CRES	Pipe Size
AN914-1	AN914-1D	1J	1/8
AN914-2	AN914-2D	2J	1/4
AN914-3	AN914-3D	3J	3/8
AN914-4	AN914-4D	4J	1/2
AN914-6	AN914-6D	6J	3/4
AN914-8	AN914-8D	8J	1
AN914-10	AN914-10D	10J	1-1/4

AN915



Elbow-Internal and
External Pipe 45Deg

AN915 Copper	AN915 Alum	304 CRES	Pipe Size
AN915-1	AN915-1D	1J	1/8
AN915-2	AN915-2D	2J	1/4
AN915-3	AN915-3D	3J	3/8
AN915-4	AN915-4D	4J	1/2
AN915-6	AN915-6D	6J	3/4
AN915-8	AN915-8D	8J	1
AN915-10	AN915-10D	10J	1-1/4

AN916



Elbow - Internal
Pipe Thread 90Deg

AN916 Copper	AN916 Alum	304 CRES	Pipe Size
AN916-1	AN916-1D	1J	1/8
AN916-2	AN916-2D	2J	1/4
AN916-3	AN916-3D	3J	3/8
AN916-4	AN916-4D	4J	1/2
AN916-6	AN916-6D	6J	3/4
AN916-8	AN916-8D	8J	1
AN916-10	AN916-10D	10J	1-1/4

AN917



Tee- Internal
Pipe Thread

AN917 Copper	AN917 Alum	304 CRES	Pipe Size
AN917-1	AN917-1D	1J	1/8
AN917-2	AN917-2D	2J	1/4
AN917-3	AN917-3D	3J	3/8
AN917-4	AN917-4D	4J	1/2
AN917-6	AN917-6D	6J	3/4
AN917-8	AN917-8D	8J	1
AN917-10	AN917-10D	10J	1-1/4

AN918



Cross-Internal
Pipe Thread

AN918 Copper	AN918 Alum	304 CRES	Pipe Size
AN918-1	AN918-1D	1J	1/8
AN918-2	AN918-2D	2J	1/4
AN918-3	AN918-3D	3J	3/8
AN918-4	AN918-4D	4J	1/2
AN918-6	AN918-6D	6J	3/4
AN918-8	AN918-8D	8J	1
AN918-10	AN918-10D	10J	1-1/4

AN919



Reducer-External
Thread Flared Tube

AN919 Steel	AN919 Alum	Large Tube	Small Tube
AN919-0	AN919-0D	3/16	1/8
AN919-1	AN919-1D	1/4	1/8
AN919-2	AN919-2D	1/4	3/16
AN919-3	AN919-3D	5/16	1/4
AN919-4	AN919-4D	3/8	1/8
AN919-5	AN919-5D	3/8	3/16
AN919-6	AN919-6D	3/8	1/4
AN919-7	AN919-7D	3/8	5/16
AN919-8	AN919-8D	1/2	1/8
AN919-9	AN919-9D	1/2	3/16
AN919-10	AN919-10D	1/2	1/4
AN919-11	AN919-11D	1/2	5/16
AN919-12	AN919-12D	1/2	3/8
AN919-13	AN919-13D	5/8	1/4
AN919-14	AN919-14D	5/8	3/8
AN919-15	AN919-15D	5/8	1/2
AN919-16	AN919-16D	3/4	1/4
AN919-17	AN919-17D	3/4	5/16
AN919-18	AN919-18D	3/4	3/8
AN919-19	AN919-19D	3/4	1/2
AN919-20	AN919-20D	3/4	5/8
AN919-21	AN919-21D	1	1/4
AN919-22	AN919-22D	1	5/8
AN919-23	AN919-23D	1	3/4

AN924



Nut-Flared Tube
Bulkhead Fitting

AN924 Steel	AN924 Alum	304 CRES	Thread Size
AN924-2	AN924-2D	2J	5/16-24
AN924-3	AN924-3D	3J	3/8-24
AN924-4	AN924-4D	4J	7/16-20
AN924-5	AN924-5D	5J	1/2-20
AN924-6	AN924-6D	6J	9/16-18
AN924-8	AN924-8D	8J	3/4-16
AN924-10	AN924-10D	10J	7/8-14
AN924-12	AN924-12D	12J	1-1/16-12
AN924-16	AN924-16D	16J	1-5/16-12

AN929



Cap Assembly
Pressure Seal

AN929 Alum	AN929 CRES	Tube OD	Thread Size
AN929-2	AN929-2J	1/8	5/16-24
AN929-3	AN929-3J	3/16	3/8-24
AN929-4	AN929-4J	1/4	7/16-20
AN929-5	AN929-5J	5/16	1/2-20
AN929-6	AN929-6J	3/8	9/16-18
AN929-8	AN929-8J	1/2	3/4-16
AN929-10	AN929-10J	5/8	7/8-14
AN929-12	AN929-12J	3/4	1-1/16-12
AN929-16	AN929-16J	1	1-5/16-12

AN6289



Nut (Undercut)-Flared
Tube Bulkhead Fitting

AN6289 Steel	AN6289 Alum	AN6289 CRES	Thread Size
AN6289-2	AN6289-2D	AN6289-J2	5/16-24
AN6289-3	AN6289-3D	AN6289-J3	3/8-24
AN6289-4	AN6289-4D	AN6289-J4	7/16-20
AN6289-5	AN6289-5D	AN6289-J5	1/2-20
AN6289-6	AN6289-6D	AN6289-J6	9/16-18
AN6289-8	AN6289-8D	AN6289-J8	3/4-16
AN6289-10	AN6289-10D	AN6289-J10	7/8-14
AN6289-12	AN6289-12D	AN6289-J12	1-1/16-12
AN6289-16	AN6289-16D	AN6289-J16	1-5/16-12

Female Flare Swivel Fitting



FCM Series	Flare Size	Tube OD	Thread Size
FCM2914	-4	1/4	7/16-20
FCM2915	-6	3/8	9/16-18
FCM2916	-8	1/2	3/4-16
FCM2917	-10	5/8	7/8-14
FCM2918	-12	3/4	1-1/16-12

Fuel Pressure Adapter



FCM Series	Flare Size	Tube OD	Pipe Size
FCM2183	-6	3/8	1/8
FCM2184	-8	1/2	1/8

Oring Requirement

(AN871, AN893, AN894, AN938)

Tube OD	MS29513 Dash#
1/4	-012
5/16	-013
3/8	-112
1/2	-114
5/8	-116
3/4	-213
1	-217
1-1/4	-220

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Aerospace Hoses, Hose Fittings, and Hose Assemblies

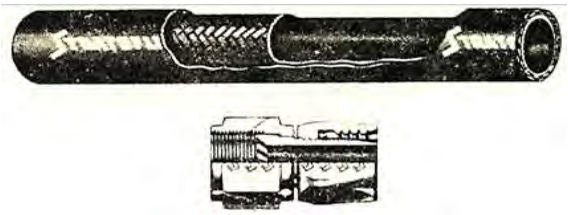
Aircraft hoses can be classified as either Rubber-Fiber or Stainless Braided. Rubber-Fiber hoses utilize reuseable fittings which means that the hose can be user assembled. Stainless Braided hose is available in a user assembled series or machine assembled series.

Never equate any hose ID or OD with its Dash Number.

The Dash Number of most hose series only references the OD of the tubing it is associated with. For instance, a -4 hose is commonly referred to as 1/4" hose. As a rule, no ID or OD of that hose equates to 1/4" (Stratoflex 193 ID actually is 1/4"). **Never Measure the ID or OD of a hose and directly relate it to a Dash Number. Refer to the Charted ID to convert any hose ID to a Dash Number.**

Stratoflex 193 or Aeroquip 306 Buna-N Low Pressure Hose

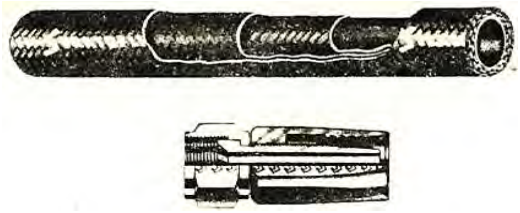
Application: Low pressure air and vacuum instrument systems. May also be used for low Pressure oil lines.
Construction: Seamless Buna-n
Reinforcement: One Braid of high tensile fiber cord. Covered with synthetic rubber.
Specifications: Hose meets or exceeds the requirements for MIL-H-5593
Temperature Range: -65F to 165F



Hose				Working	Burst	Straight Fittings	
Strato Flex	Aero Quip	Tube Size	ID	Press PSI	Press PSI	Strato Flex	Aero Quip
193-2	306-2	1/8	1/8	300	2000	311-2D	471-2D
193-3	306-3	3/16	3/16	250	1700	311-3D	471-3D
193-4	306-4	1/4	1/4	200	1250	311-4D	471-4D
193-6	306-6	3/8	3/8	150	1000	311-6D	471-6D
193-8	306-8	1/2	1/2	150	750	311-8D	471-8D
193-10	306-10	5/8	5/8	150	700	311-10D	471-10D

Stratoflex 111 or Aeroquip 303 Fiber Braided Hose

Application: Aircraft hydraulic, pneumatic, coolant, fuel and oil systems specified in MS33620
Construction: Tube - Seamless synthethic rubber
Reinforcement: One fiber braid and one high tensile steel wire band. Cover - Fiber Braid impregnated with oil and mildew resistant rubber
Specifications: Hose meets or exceeds the requirements of MIL-H-8794
Temperature Range: -40F to 250F



Hose				Working	Burst	Straight Fittings	
Strato Flex	Aero Quip	Tube Size	ID	Press PSI	Press PSI	Strato Flex	Aero Quip
111-3	303-3	1/8	1/8	3000	12000	300-3S	491-3
111-4	303-4	3/16	3/16	3000	12000	300-4S	491-4
111-5	303-5	1/4	1/4	3000	10000	300-5S	491-5
111-6	303-6	3/8	5/16	2000	9000	300-6S	491-6
111-8	303-8	1/2	13/16	2000	8000	300-8D	491-8
111-10	303-10	5/8	1/2	1750	7000	300-10D	491-10
111-12	303-12	3/4	5/8	1500	6000	300-12D	491-12
111-16	303-16	7/8	7/8	800	3200	300-16D	491-16

Hose		45 Fittings		90 Fittings	
Strato Flex	Aero Quip	Strato Flex	Aero Quip	Strato Flex	Aero Quip
111-3	303-3			649-3	980005-3
111-4	303-4	646-4S	980006-4	649-4	980005-4
111-5	303-5	646-5S	980006-5	649-5	980005-5
111-6	303-6	646-6S	980006-6	649-6	980005-6
111-8	303-8	646-8D	980006-8D	649-8D	980005-8D
111-10	303-10	646-10D	980006-10D	649-10D	980005-10D
111-12	303-12	646-12D	980006-12D	649-12D	980005-12D
111-16	303-16	646-16D	980006-16D	649-16D	980005-16D

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Aerospace Hoses and Hose Fittings

Stratoflex 156 or Aeroquip 601 Stainless Braided Hose

(Identical to Aeroquip AQP-FBA Hose except 601 Hose utilizes a different elastomer)

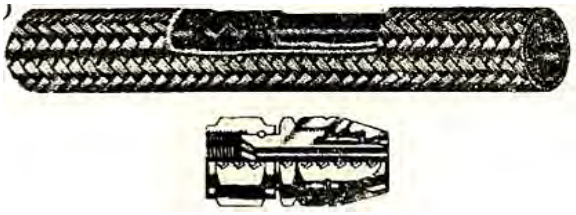
Application: Aircraft hydraulic, pneumatic, coolant, fuel and oil systems specified in MS33620

Construction: Tube - Seamless synthethic rubber

Reinforcement: One and one half corrosion resistant stainless steel wire band.

Specifications: Hose meets or exceeds the requirements of MIL-H-83797

Temperature Range: -40F to 300F



Hose				Working	Burst	Straight Fittings	
Strato Flex	Aero Quip	Tube Size	ID	Press PSI	Press PSI	Strato Flex	Aero Quip
156-3	601-3	3/16	5/32	1500	6000	676-3S	816-3
156-4	601-4	1/4	7/32	1500	6000	676-4S	816-4
156-5	601-5	5/16	9/32	1500	6000	676-5S	816-5
156-6	601-6	3/8	11/32	1500	6000	676-6D	816-6D
156-8	601-8	1/2	7/16	1250	5000	676-8D	816-8D
156-10	601-10	5/8	9/16	1250	5000	676-10D	816-10D
156-12	601-12	3/4	11/16	950	4000	676-12D	816-12D
156-16*	601-16	1	7/8	625	3000	676-16D*	816-16D*
156-20*	601-20	1-1/4	1-1/8	800	2000	676-20D*	816-20D*

Hose		45 Fittings		90 Fittings	
Strato Flex	Aero Quip	Strato Flex	Aero Quip	Strato Flex	Aero Quip
156-3	601-3	678-3S	8846-3	680-3S	8891-3
156-3	601-4	678-4S	8846-4	680-4S	8891-4
156-5	601-5	678-5S	8846-5	680-5S	8891-5
156-6	601-6	678-6D	8846-6D	680-6D	8891-6D
156-8	601-8	678-8D	8846-8D	680-8D	8891-8D
156-10	601-10	678-10D	8846-10D	680-10D	8891-10D
156-12	601-12	678-12D	8846-12D	680-12D	8891-12D
156-16*	601-16*	678-16D*	8846-16D*	680-16D*	8891-16D*
156-20*	601-20*	678-20D*	8846-20D*	680-20D*	8891-20D*

* Special Order

AE102 FIRESLEEVE - Application Chart

AE102	Clamp	111/303	MILH6000	FBA/156	FBC
-6	JS242				-3&-4
-7	JS242				-6
-8	JS242	-3		-3&-4	-8
-9	JS242	-4	-3	-6	
-10	JS242	-5	-4		
-12	JS253	-6	-5	-8	
-14					
-13	JS253	-8	-6	-10	
-16	JS253	-10	-8	-12	
-18					
-20	JS253	-12	-10		
-22	JS253		-12	-16	
-24					
-26	JS257			-20	

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HOSE ASSEMBLY MANDRELS

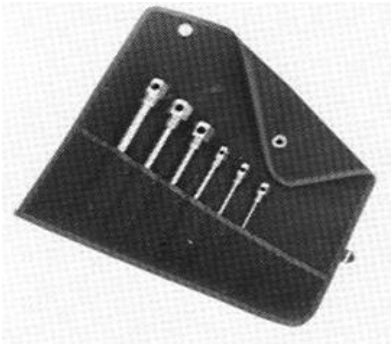
Use these mandrel tools to assemble Stratoflex 111 Hose or Aeroquip 303 Hose.



Individual Mandrels

Part#	Description
SK-3M	-3 Mandrel
SK-4M	-4 Mandrel
SK-5M	-5 Mandrel
SK-6M	-6 Mandrel
SK-8M	-8 Mandrel
SK-10M	-10 Mandrel
SK-12M	-12 Mandrel
SK-16M	-16 Mandrel
SK-1599M	-3 thru -16 Mandrel Set*

*Includes Canvas Tool Bag

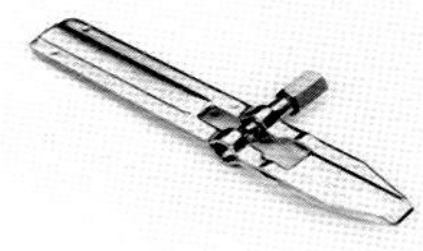


SK-1599M Set

FIRESLEEVE CLAMPING TOOLS

Thriftool J070

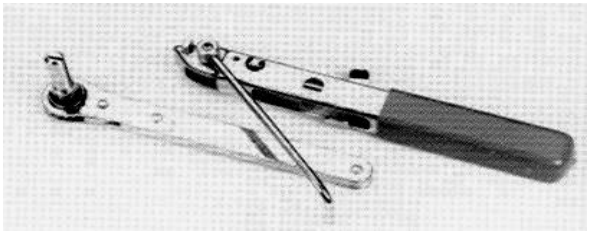
The Thriftool is a small inexpensive functional tool for use with 1/4" or 3/8" width band. Ideal for JS242 and JS253 clamps. It must be used in conjunction with a 1/2" wrench to apply tension and has no built-in cutter.



J070 Tool

Pok-It II Tool J020

Lightweight pocket size tool for use with 1/4" or 3/8" width band. Also ideal for JS242 and JS253 clamps. Tool has a ratchet tension feature and built in cutter.



J020 Tool

FIRESLEEVE CLAMPS

SKYBOLT offers the JS242 and JS253 clamps that cover all common firesleeve requirements. Both clamps are 1/4" width. Clamps are referenced in the FIRESLEEVE APPLICATION CHART on the opposite page.

IF YOU ARE CONSIDERING USING FIRESLEEVE -

All charted sizes assume that firesleeve is installed prior to the last hose fitting. Charted sizes will not allow clearance to slide firesleeve over hose fitting.

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CONTROL CABLE

1x19 NON-FLEXIBLE AIRCRAFT CABLE- Made to specifications MIL-C-69040 (galvanized and MIL-C-5693 (stainless). 1x19 cable has one strand of nineteen wires. It has more metallic area than 7x7 or 7x19 cable which makes it stronger but least flexible. 1x19 cable is generally used for bracing purposes.

7x7 FLEXIBLE AIRCRAFT CABLE- Made to specification MIL-W-83420* (galvanized and stainless). 7x7 cable has seven strands of seven wires each. It is used for control purposes where extreme flexiblilty is not required but abrasion is a factor.

7x19 FLEXIBLE AIRCRAFT CABLE- Made to specifications MIL-W-83420* (galvanized and stainless 7x19 cable has seven strands of nineteen wires each. Its great metallic area makes it stronger than 7x7 cable. Because of its fine wires, the best service is obtained where abrasion is not too severe. The 7x19 cable is the most flexible to meet severe bending requirements.



1x19



7x7



7x19

Cable Part#	Breaking Strength Stainless
1X19-1/16S	500lbs
1X19-3/32S	1200
1X191/8S	2100
1X19-5/32S	3300
1X19-3/16S	4700

Cable Part#	Breaking Strength Stainless
7X7-1/16S	480lbs
7X7-3/32S	920
7X7-1/8S	1700
7X7-5/32S	2600
7X7-3/16S	3700

Cable Dia	Breaking Strength Stainless
7X19-1/16S	
7X19-3/32S	920lbs
7X19-1/8S	1760
7X19-5/32S	2400
7X19-3/16S	3700

*MIL-W-83420 replaces MIL-W-1511 and MIL-w-5424B. Note: Aircraft and commercial cable differ. Aircraft cable utilizes special lubricants for better fatigue life. **SKYBOLT** will only provide certified aircraft cable meeting military specifications.

NICOPRESS OVAL SLEEVES

Copper, Zinc plated Copper, and Tin plated Copper
(specifically designed for stainless cable)

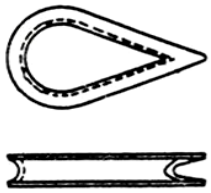
Copper	**Zinc Copper**	**Tin Copper**	Cable Dia
18-1-C	28-1-C	428-2-VC	1/16
18-2-G	28-2-G	428-3-VG	3/32
18-3-M	28-3-M	428-4-VM	1/8
18-4-P	28-4-P	428-5-VP	5/32
18-6-X	28-6-X	428-6-VX	3/16
18-10-F6	28-10-F6	428-8-VF6	1/4



AN100-Thimble

Carbon Steel- Cadium plated per QQ-P-416
CRES. Replace dash(-) with C to denote CRES.

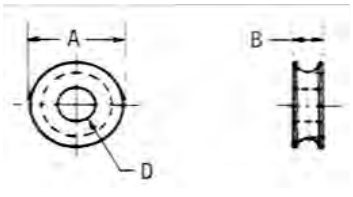
AN100	Cable Dia
AN100-3	1/16, 5/64
AN100-4	3/32. 7/64, 1/8
AN100-5	5/32
AN100-6	3/16
AN100-7	7/32
AN100-8	1/4
AN100-10	5/16



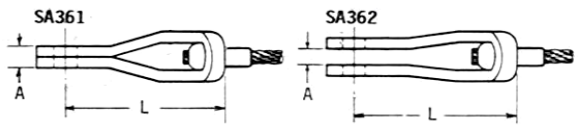
AN111- CABLE BUSHING. Low Carbon Steel - Cadmium Plated per QQ-P-421. CRES.

Replace dash with C for CRES.

AN111	Cable Size	A	B	D
AN111-3	1/16, 5/64, 3/32	.437	.156	.187
AN111-4	1/8	.468	.187	.187
AN111-5	5/32	.562	.218	.250
AN111-6	3/16	.687	.250	312
AN111-7	7/32	.875	.270	375
AN111-8	1/4	1.000	.312	.375
AN111-10	5/16	1.312	.375	.437
AN111-12	3/8	1.500	.437	.500



SA361 EYE END STRAP. CRES
SA632 FORK END STRAP. CRES.



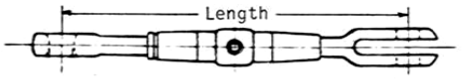
SA361	SA362	Wire Rope Diameter	Pin Hole Diameter	L	SA361 A	SA362 A
SA361-2	SA361-2	1/16	.188	1.0625	.088	.093
SA361-3	SA361-3	3/32	.188	1.5000	.103	.108
SA361-4	SA361-4	1/8	.188	1.6250	.190	.195

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AN130

Dash #	Length AN130	(Min) Others	Takeup AN130	Others	Thread	Strength
AN130-5S	2-3/8	2-1/8	3/8	7/16	#4-48	550LBS
AN130-8S	4-1/2	4-1/2	1-1/4	1-3/8	#6-40	800
AN130-16S	4-1/2	4-1/2	1-1/8	1-1/8	#10-32	1600
AN130-16L	8	8	2-7/8	2-7/8	#10-32	1600
AN130-22S	4-17/32	4-1/2	1	1	1/4-28	2200
AN130-22L	8-1/32	8	2-3/4	2-3/4	1/4-28	2200
AN130-32S	4-19/32	4-1/2	7/8	7/8	1/4-28	3200
AN130-32L	8-7/64	8	2-5/8	2-5/8	1/4-28	3200
AN130-46S	4-21-32	4-1/2	5/8	5/8	5/16-24	4600
AN130-46L	8-5/32	8	2-3/8	2-3/8	5/16-24	4600
AN130-61L	8-9/32	8	2-1/8	2-1/8	3/8-24	6100
AN130-80L	8-5/16	8	2-1/8	2/18	3/8-24	8000
AN130-125L	9-1/16	9	2-1/16	2-1/16	7/16-20	12500
AN130-175L	9-9/16	9-1/2	2-1/16	2-1/16	1/2-20	17500

Replace-22S & -22L with -32S & -32L.

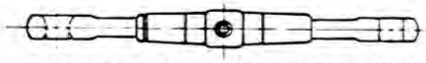


AN130- AN170 Cable Eye, AN161 Fork, AN155 Barrel

AN135

Dash #	Length AN135	(Min) Others	Takeup AN135	Others	Thread	Strength
AN135-5S*	2-3/8	2-1/8	3/8	7/16	#4-48	550LBS
AN135-8S	4-1/2	4-1/2	1-1/4	1-3/8	#6-40	800
AN135-16S	4-1/2	4-1/2	1-1/8	1-1/8	#10-32	1600
AN135-16L	8	8	2-7/8	2-7/8	#10-32	1600
AN135-22S	4-17/32	4-1/2	1	1	1/4-28	2200
AN135-22L	8-1/32	8	2-3/4	2-3/4	1/4-28	2200
AN135-32S	4-19/32	4-1/2	7/8	7/8	1/4-28	3200
AN135-32L	8-7/64	8	2-5/8	2-5/8	1/4-28	3200
AN135-46S	4-21-32	4-1/2	5/8	5/8	5/16-24	4600
AN135-46L	8-5/32	8	2-3/8	2-3/8	5/16-24	4600
AN135-61L	8-9/32	8	2-1/8	2-1/8	3/8-24	6100
AN135-80L	8-5/16	8	2-1/8	2/18	3/8-24	8000
AN135-125L	9-1/16	9	2-1/16	2-1/16	7/16-20	12500
AN135-175L	9-9/16	9-1/2	2-1/16	2-1/16	1/2-20	17500

* AN135S not available. AN150-5s Length =2-5/8", Takeup =5/16". Replace-22S & -22L with -32S & -32L.

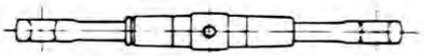


AN135- AN170 Cable Eye, AN165 Pin Eye, AN155 Barrel

AN140

Dash #	Length AN140	(Min) Others	Takeup AN140	Others	Thread	Strength
AN140-5S	2-3/8	2-1/8	3/8	7/16	#4-48	550LBS
AN140-8S	4-1/2	4-1/2	1-1/4	1-3/8	#6-40	800
AN140-16S	4-1/2	4-1/2	1-1/8	1-1/8	#10-32	1600
AN140-16L	8	8	2-7/8	2-7/8	#10-32	1600
AN140-22S	4-17/32	4-1/2	1	1	1/4-28	2200
AN140-22L	8-1/32	8	2-3/4	2-3/4	1/4-28	2200
AN140-32S	4-19/32	4-1/2	7/8	7/8	1/4-28	3200
AN140-32L	8-7/64	8	2-5/8	2-5/8	1/4-28	3200
AN140-46S	4-21-32	4-1/2	5/8	5/8	5/16-24	4600
AN140-46L	8-5/32	8	2-3/8	2-3/8	5/16-24	4600
AN140-61L	8-9/32	8	2-1/8	2-1/8	3/8-24	6100
AN140-80L	8-5/16	8	2-1/8	2/18	3/8-24	8000
AN140-125L	9-1/16	9	2-1/16	2-1/16	7/16-20	12500
AN140-175L	9-9/16	9-1/2	2-1/16	2-1/16	1/2-20	17500

Replace-22S & -22L with -32S & -32L.

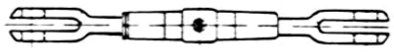


AN140- AN170 Cable Eye(2), AN155 Barrel

AN150

Dash #	Length AN150	(Min) Others	Takeup AN150	Others	Thread	Strength
AN150-5S	2-3/8	2-1/8	3/8	7/16	#4-48	550LBS
AN150-8S	4-1/2	4-1/2	1-1/4	1-3/8	#6-40	800
AN150-16S	4-1/2	4-1/2	1-1/8	1-1/8	#10-32	1600
AN150-16L	8	8	2-7/8	2-7/8	#10-32	1600
AN150-22S	4-17/32	4-1/2	1	1	1/4-28	2200
AN150-22L	8-1/32	8	2-3/4	2-3/4	1/4-28	2200
AN150-32S	4-19/32	4-1/2	7/8	7/8	1/4-28	3200
AN150-32L	8-7/64	8	2-5/8	2-5/8	1/4-28	3200
AN150-46S	4-21-32	4-1/2	5/8	5/8	5/16-24	4600
AN150-46L	8-5/32	8	2-3/8	2-3/8	5/16-24	4600
AN150-61L	8-9/32	8	2-1/8	2-1/8	3/8-24	6100
AN150-80L	8-5/16	8	2-1/8	2/18	3/8-24	8000
AN150-125L	9-1/16	9	2-1/16	2-1/16	7/16-20	12500
AN150-175L	9-9/16	9-1/2	2-1/16	2-1/16	1/2-20	17500

Replace-22S & -22L with -32S & -32L.

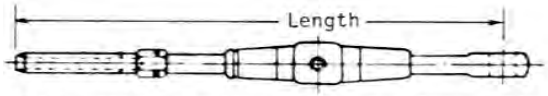


AN150- AN161 Fork(2), AN155 Barrel

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AN145

Part#	Length (Min)	Takeup	Thread	Strength
AN145-8S	5-5/8	1-3/8	#6-40	480LBS
AN145-8L*	----------	3-1/8	#10-32	480
AN145-16S	5-3/4	1-1/8	#10-32	920
AN145-16L	9-1/4	2-7/8	1/4-28	920
AN145-22S	5-15/16	1	1/4-28	2000
AN145-22L	9-7/16	2-3/4	1/4-28	2000
AN145-32S	6-3/16	7/8	1/4-28	2800
AN145-32L	9-11/16	2-5/8	1/4-28	2800
AN145-46S	6-3/8	5/8	5/16-24	4200
AN145-46L	9-7/8	2-3/8	5/16-24	4200
AN145-61L	10-1/16	2-1/8	3/8-24	5600
AN145-80L	10-3/8	2-1/8	3/8-24	7000
AN145-125L	11-3/16	2-1/16	7/16-20	8000
AN145-175L	11-3/4	2-1/16	1/2-20	9800

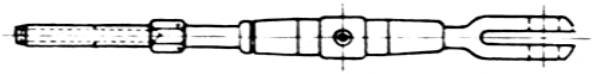


AN145- AN669 Terminal, AN165 Pin Eye, AN155 Barrel

* Size 8L available as AN147 only. Part#s listed are for Cres Swaging terminals. Replace-22S & -22L with -32S & -32L.

AN146

Part#	Length Min	Takeup	Thread	Strength
AN146-8S	5-5/8	1-3/8	#6-40	480LBS
AN146-8L*	----------	3-1/8	#10-32	480
AN146-16S	5-3/4	1-1/8	#10-32	920
AN146-16L	9-1/4	2-7/8	1/4-28	920
AN146-22S	5-15/16	1	1/4-28	2000
AN146-22L	9-7/16	2-3/4	1/4-28	2000
AN146-32S	6-3/16	7/8	1/4-28	2800
AN146-32L	9-11/16	2-5/8	1/4-28	2800
AN146-46S	6-3/8	5/8	5/16-24	4200
AN146-46L	9-7/8	2-3/8	5/16-24	4200
AN146-61L	10-1/16	2-1/8	3/8-24	5600
AN146-80L	10-3/8	2-1/8	3/8-24	7000
AN146-125L	11-3/16	2-1/16	7/16-20	8000
AN146-175L	11-3/4	2-1/16	1/2-20	9800

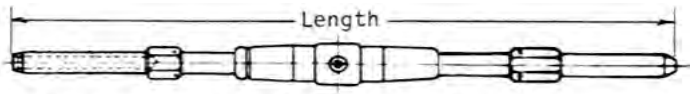


AN146- AN669 Terminal, AN161 Fork, AN155 Barrel

* Size 8L available as AN147 only. Part#s listed are for Cres Swaging terminals. Replace-22S

AN147

Part#	Length (Min)	Takeup	Thread	Strength
AN147--8S	6-3/4	1-3/8	#6-40	480LBS
AN147--8L*	11-1/4	3-1/8	#10-32	480
AN147--16S	7	1-1/8	#10-32	920
AN147--16L	10-1/2	2-7/8	1/4-28	920
AN147--22S	7-7/16	1	1/4-28	2000
AN147--22L	10-15/16	2-3/4	1/4-28	2000
AN147--32S	7-7/8	7/8	1/4-28	2800
AN147--32L	11-3/8	2-5/8	1/4-28	2800
AN147--46S	8-1/4	5/8	5/16-24	4200
AN147--46L	11-3/4	2-3/8	5/16-24	4200
AN147--61L	12-1/16	2-1/8	3/8-24	5600
AN147--80L	12-11/16	2-1/8	3/8-24	7000
AN147--125L	13-5/16	2-1/16	7/16-20	8000
AN147--175L	14	2-1/16	1/2-20	9800



AN147- AN669 Terminal(2), AN155 Barrel

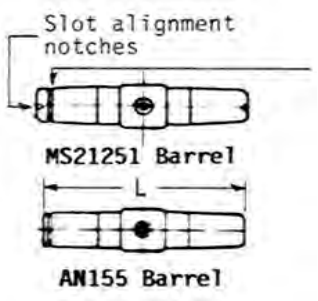
* Size 8L available as AN147 only. Part#s listed are for Cres Swaging terminals. Replace-22S

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MS21251 Supercedes AN155 and NAS649 - **TURNBUCKLE BARREL.**

Brass per QQ-B-637. Aluminum p Aluminum per WW-T-700/3. Letter following dash# indicates length (short or long). MS21251 items can replace AN155 items. MS21251 items are interchangeable with NAS649 items.

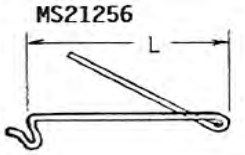
MS21251	Use Cliplock MS21256	AN155	Wire Rope Diameter	L	Strength
---	--	AN155-5S	----	1-3/16	550LBS
MS21251B2S	MS21256-1	AN155-8S	1/16	2-1/4	800
MS21251B2L	MS21256-2	AN155-8L	1/16	4	800
MS21251B3S	MS21256-1	AN155-16S	3/32	2-1/4	1600
MS21251B3L	MS21256-2	AN155-16L	3/32	4	1600
MS21251B5S	MS21256-1	AN155-32S	5/32	2-1/4	3200
MS21251B5L	MS21256-2	AN155-32L	5/32	4	3200
MS21251B6S	MS21256-1	AN155-46S	3/16	2-1/4	4600
MS21251B6L	MS21256-2	AN155-46L	3/16	4	4600
MS21251B8L	MS21256-2	AN155-80L	1/4	4	8000
MS21251B9L	MS21256-3	AN155-125L	9/32	4-1/4	12500
MS21251B10L	MS21256-3	AN155-175L	5/16	4-1/4	17500



Note: Use -5 parts with 1/8" diameterwire rope, minimum breaking strength 2200 LBS as per drawing. For applications requiring AN155-22S or -22L use AN155-32S or 32L respectively. Replace B with A to denote aluminum.

MS21256- TURNBUCKLE LOCKING CLIP. CRES.

MS21256-	L	Use With MS21251
MS21256-1	1.115	B2S, B3S, B5S, B6S
MS21256-2	2.000	B2L, B3L, B5L, B6L, B8L
MS21256-3	2.140	B9L, B10L



Safety Wire



1LB Dispensing Can

Part#	Dia	Length
MS20995C20	.020	937ft
MS20995C25	.025	599
MS20995C32	.032	366
MS20995C41	.041	223
016-COPPER*	.016	

*Break-a-way Wire

Safety Wire Tools

Tool	Type	Manufactured
SK197	9" Auto Return	USA
SK196	6" Auto return	USA
SK48UV51	10" Manual	Asia



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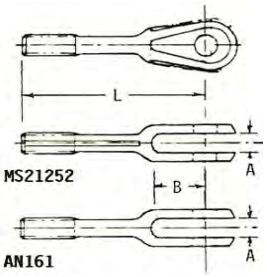
Some Part#s Special Order Only

TURNBUCKLE COMPONENTS

MS21252 Supercedes **AN161** and **NAS645-** TURNBUCKLE FORK.

Steel- Cadium plated per QQ-PP-41+. First letter denotes thread (Left or Right). Second letter denotes long or short. MS21252 can replace AN161.

MS21252- RH	LH	AN161 RH	LH	Wire Rope Diameter	Pin Hole Dia	L	A	B	Thread	Strength Lbs
---	---	5RS	5LS	---	.164	1.063	.150	.375	#4-48	500
MS21252-2RS	MS21252-2LS	8RS	8LS	1/16	.190	1.500	.109	.375	#6-40	800
MS21252-3RS	MS21252-3LS	16RS	16LS	3/32	.190	1.625	.156	.375	#10-32	1600
MS21252-3RL	MS21252-3LL	16RL	16LL	3/32	.190	2.500	.156	.375	#10-32	1600
MS21252-4RS	MS21252-4LS	22RS	22LS	1/8	.190	1.844 (1)	.195(4)	.531 (5)	1/4-28	2200
MS21252-4RL	MS21252-4LL	22RL	22LL	1/8	.190	2.734 (2)	.195(4)	.531 (5)	1/4-28	2200
MS21252-5RS	MS21252-5LS	32RS	32LS	5/32	.250	1.844	.218	.531	1/4-28	3200
MS21252-5RL	MS21252-5LL	32RL	32LL	5/32	.250	2.734	.218	.531	1/4-28	3200
MS21252-6RS	MS21252-6LS	46RS	46LS	3/16	.313	2.031	.250	.656	5/16-24	4600
MS21252-6RL	MS21252-6LL	46RL	46LL	3/16	.313	2.906	.250	.656	5/16-24	4600
MS21252-8RL	MS21252-8LL	61RL	61LL	1/4	.375	3.188 (3)	.270	.875 (6)	3/8-24	6100
MS21252-8RL	MS21252-8LL	80RL	80LL	1/4	.375	3.188	.312	.875	3/8-24	8000
MS21252-9RL	MS21252-9LL	125RL	125LL	9/32	.438	3.438	.375	1.000	7/16-20	12500
MS21252-10RL	MS21252-10LL	175RL	175LL	5/16	.500	3.688	.437	1.188	1/2-20	17500

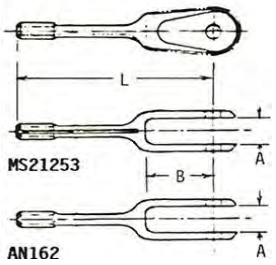


(1) AN161=1.17MS21252-9 (2) AN161=2.5MS21252-94 (3) AN161=3.156 (4) AN161=.187 (5) AN161=.46MS21252-9
(6) AN161=.843

MS21253 Supercedes **AN162** and **NAS646-** CLEVIS END TURNBUCKLE, FOR BEARING.

Steel- Cadium plated per QQ-P-416. First letter denotes thread (Left ot Right). Second letter denotes long or short. MS21253 can replace AN162.
MS21253 and NAS646 are interchangeable.

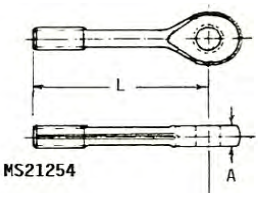
MS21253- **or AN162-** RH	LH	MS/AN Bearing	Wire Rope Diameter		Pin Pin Hole Dia	L	A	B	Thread	Strength Lbs
MS21253-3RS	MS21253-3LS	200KP3	3/32		.190	2.312	.312	1.062	#10-32	1600
MS21253-3RL	MS21253-3LL	200KP3	**3/32**		.190	3.187	.312	1.062	1/4-28	2200
MS21253-4RS	MS21253-4LS	200KP4	**1/8**		.250	2.562	.500	1.188	1/4-28	2200
MS21253-4RL	MS21253-4LL	200KP4	**1/8**		.250	3.437	.500	1.188	5/16-24	3200
MS21253-5RS	MS21253-5LS	200KP4	**5/32**		.250	2.687	.500	1.188	5/16-24	3200
MS21253-5RL	MS21253-5LL	200KP4	**5/32**		.250	3.562	.500	1.188	5/16-24	3200
MS21253-6RS	MS21253-6LS	200KP5	**3/16**		.313	2.750	.563	'1.313	5/16-24	4600
MS21253-6RL	MS21253-6LL	200KP5	**3/16**		.313	3.625	.563	1.313	5/16-24	4600



MS21254 Supercedes **AN165** and **NAS648**- EYE END TURNBUCKLE, FOR PIN

Steel- Cadmium plated per QQ-P-416. First letter denotes thread (left of right).
Second letter denotes long or short. MS parts can replace AN parts. MS parts
are interchangable with NAS parts.

MS21254- **MS21255-** RH	LH	**AN165-** **AN170-** RH	LH	Wire Rope Diameter	Hole Dia.	Hole Dia.	L	A	Thread	Strength Lbs
---		5RS	5LS	1/16	---	.172	.813	.125	#4-48	550
MS21254-2RS	MS21254-2LS	8RS	8LS	1/16	.190	.188	1.500	.125	#6-40	800
MS21254-2RL	MS21254-2LL	---		1/16	.190	.188	2.375	.125	#6-40	800
MS21254-3RS	MS21254-3LS	16RS	16LS	3/32	.190	.219	1.625	.188	#10-32	1600
MS21254-3RL	MS21254-3LL	16RL	16LL	3/32	.190	.219	2.500	.188	#10-32	1600
MS21254-5RS	MS21254-5LS	22RS	22LS	5/32	.250	.281 (1)	1.750 (3)	.219	1/4-28	2200
MS21254-5RL	MS21254-5LL	22RL	22LL	5/32	.250	.281 (1)	2.625 (4)	.219	1/4-28	2200
MS21254-5RS	MS21254-5LS	32RS	32LS	5/32	.250	.281	1.750	.219	1/4-28	3200
MS21254-5RL	MS21254-5LL	32RL	32LL	5/32	.250	.281	2.625	.219	1/4-28	3200
MS21254-6RS	MS21254-6LS	46RS	46LS	3/16	.313	.313	1.875	.281	5/16-24	4600
MS21254-6RL	MS21254-6LL	46RL	46LL	3/16	.313	.313	2.750	.281	5/16-24	4600
MS21254-8RL	MS21254-8LL	61RL	61LL	1/4	.375	.375 (2)	2.875	.328 (5)	3/8-24	6100
MS21254-8RL	MS21254-8LL	80RL	80LL	1/4	375	.375	2.875	.328	3/8-24	8000
MS21252-9RL	MS21252-9LL	125RL	125LL	9/32	.438	.469	3.375	.375	7/16-20	12500
MS21254-10RL	MS21254-10LL	175RL	175LL	5/16	.500	.563	3.625	.469	1/2-20	17500



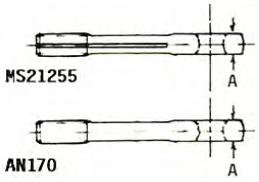
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TURNBUCKLE COMPONENTS

MS21255 Supercedes **AN170** and **NAS647** EYE END TURNBUCKLE, FOR WIRE ROPE.

Steel- Cadmium plated per QQ-P-416. First letter denotes thread (left of right).
are interchangable with NAS parts.

RH	LH	AN170 RH	AN170 LH		Dia.	Dia.	L	A	Thread	Lbs
----------		5RS	5LS	1/16	----------	.172	.813	.125	#4-48	550
MS21254-2RS	MS21254-2LS	8RS	8LS	1/16	.190	.188	1.500	.125	#6-40	800
MS21254-2RL	MS21254-2LL	----------		1/16	.190	.188	2.375	.125	#6-40	800
MS21255-3RS	MS21255-3LS	16RS	16LS	3/32	.190	.219	1.625	.188	#10-32	1600
MS21255-3RL	MS21255-3LL	16RL	16LL	3/32	.190	.219	2.500	.188	#10-32	1600
MS21255-5RS	MS21255-5LS	22RS	22LS	5/32	.250	.281 (1)	1.750 (3)	.219	1/4-28	2200
MS21255-5RL	MS21255-5LL	22RL	22LL	5/32	.250	.281 (1)	2.625 (4)	.219	1/4-28	2200
MS21255-5RS	MS21255-5LS	32RS	32LS	5/32	.250	.281	1.750	.219	1/4-28	3200
MS21255-5RL	MS21255-5LL	32RL	32LL	5/32	.250	.281	2.625	.219	1/4-28	3200
MS21255-6RS	MS21255-6LS	46RS	46LS	3/16	.313	.313	1.875	.281	5/16-24	4600
MS21255-6RL	MS21255-6LL	46RL	46LL	3/16	.313	.313	2.750	.281	5/16-24	4600
MS21255-8RL	MS21255-8LL	61RL	61LL	1/4	.375	.375 (2)	2.875	.328 (5)	3/8-24	6100
MS21255-8RL	MS21255-8LL	80RL	80LL	1/4	375	.375	2.875	.328	3/8-24	8000
MS21255-10RL	MS21255-10LL	175RL	175LL	5/16	.500	.563	3.625	.469	1/2-20	17500



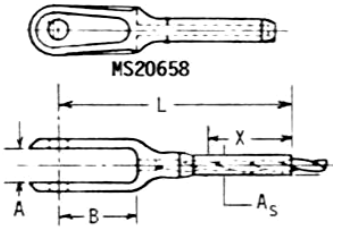
MS20658

Supercedes AN658 - Terminal , Wire Rope swaging, Fork End, For Bearing

Carbon Steel - Cadium plated per QQ-P-416. Cres - Passivated. Parts are interchangeable. Replace dash(-) with F to denote Carbon Steel.

MS20658	AN/MS BEARING	Wire Rope Diameter	Pin Hole Diameter	L	A	B	X Min*	As*	Strength
MS20658-3	200KP3	3/32	.190	2.531	.302	1.062	.80	.190	920LBS
MS20658-4	200KP4	1/8	.250	3.062	.489	1.188	1.05	.219	2000
MS20658-5	200KP4	5/32	.250	3.313	.489	1.188	1.29	.250	2800
MS20658-6	200KP4	3/16	.250	3.562	.489	1.188	1.31	.313	4200
MS20658-7	200KP5	3/16	.313	3.687	.563	1.313	1.31	.313	4200

*Swaged terminal shall conform to As diameter for length 'X'.



MS20663

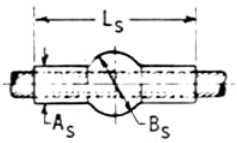
Supercedes AN663 - Swaging Terminal, Double Shank.

Carbon Steel - Cadium plated per QQ-PP-416. Cres- Passivated. Part are interchangeable. Replace dash (-) with C to denote CRES.

MS20663	Cable Dia.	Ls MS20663	As	Bs	Strength Lbs
MS20663-2	1/16	.390	.112	.190	480
MS20663-3	3/32	.578	.143	.253	920
MS20663-4	1/8	.765	.190	.315	2000
MS20663-5	5/32	.953	.222	.379	2800
MS20663-6	3/16	1.140	.255	.442	4200
MS20663-7	7/32	1.328	.302	.505	5600
MS20663-8	1/4	1.515	.348	.567	7000
MS20663-9	9/32	1.719	.382	.632	8000
MS20663-10	5/16	1.875	.413	.694	9800

Note: Dimensions are after swaging.

MS20663



MS20664

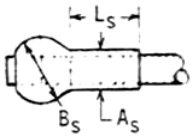
Supercedes AN664 - Swaging Terminal, Single Shank.

Carbon Steel - Cadium plated per QQ-PP-416. Cres- Passivated. Part are interchangeable. Replace dash (-) with C to denote CRES.

MS20664	Cable Dia.	Ls MS20664	As	Bs	Strength Lbs
MS20664-2	1/16	.156	.112	.190	480
MS20664-3	3/32	.234	.143	.253	920
MS20664-4	1/8	.313	.190	.315	2000
MS20664-5	5/32	.391	.222	.379	2800
MS20664-6	3/16	.469	.255	.442	4200
MS20664-7	7/32	.547	.302	.505	5600
MS20664-8	1/4	.625	.348	.567	7000
MS20664-9	9/32	.750	.382	.632	8000
MS20664-10	5/16	.813	.413	.694	9800

Note: Dimensions are after swaging.

MS20664



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TURNBUCKLE COMPONENTS

MS20667

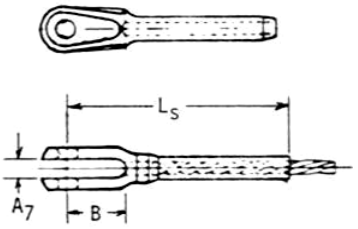
Supercedes AN667

-Terminal, Wire Rope Swaging, Fork End.

Carbon Steel - Cadium plated per QQ-P-416. 300 Series CRES-Passivated.

Parts are interchangeable. Replace dash (-) with F to denote Carbon Steel.

MS20667	Wire Rope Diameter	Pin Hole Diameter	Ls	A7	A8	B	C	Strength Lbs
MS20667-2	1/16	.190	1.75	.093	.088	.500	.180	480
MS20667-3	3/32	.190	2.06	.108	.103	.670	.219	920
MS20667-4	1/8	.190	2.61	.195	.190	.735	.250	2000
MS20667-5	5/32	.250	3.00	.202	.197	.800	.320	2800
MS20667-6	3/16	.313	3.24	.260	.255	.880	.391	4200
MS20667-7	7/32	.313	3.74	.296	.291	.970	.407	5600
MS20667-8	1/4	.375	4.10	.313	.307	1.070	.484	7000
MS20667-9	9/32	.438	4.48	.327	.322	1.170	.555	8000
MS20667-10	5/16	.438	4.86	.348	.343	1.268	.609	9800



MS20667

MS20668

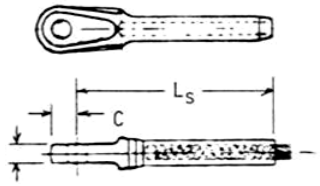
Supercedes AN668

-Terminal,Wire, Rope Swaging, Eye End.

Carbon Steel - Cadium plated per QQ-P-416. 300 Series CRES-Passivated.

Parts are interchangeable. Replace dash (-) with F to denote Carbon Steel.

MS20668	Wire Rope Diameter	Pin Hole Diameter	Ls	A7	A8	B	C	Strength Lbs
MS20668-2	1/16	.190	1.75	.093	.088	.500	.180	480
MS20668-3	3/32	.190	2.06	.108	.103	.670	.219	920
MS20668-4	1/8	.190	2.61	.195	.190	.735	.250	2000
MS20668-5	5/32	.250	3.00	.202	.197	.800	.320	2800
MS20668-6	3/16	.313	3.24	.260	.255	.880	.391	4200
MS20668-7	7/32	.313	3.74	.296	.291	.970	.407	5600
MS20668-8	1/4	.375	4.10	.313	.307	1.070	.484	7000
MS20668-9	9/32	.438	4.48	.327	.322	1.170	.555	8000
MS20668-10	5/16	.438	4.86	.348	.343	1.268	.609	9800



MS20668

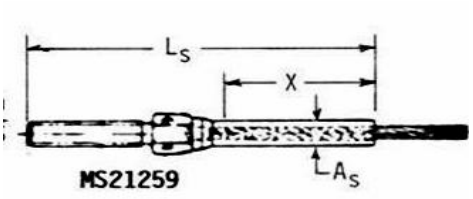
MS21259

Supercedes AN666

-Terminal, Wire Rope Stud (Not for use with Turnbuckle Barrels).

Carbon Steel- Cadmium plated per QQ-P-416. 300 Series CRES-Passivated. MS parts can replace AN parts. MS parts are interchangeable with Nas parts. Hexagonal facing may be eliminated by optional design.

MS21259 RH	MS21259 LH	Wire Rope Diameter	Ls	X Min*	As	Thread	Strength Lbs
MS21259-2RH	MS21259-2LH	1/16	2.65	.70	.138	#6-40	480
		1/16		.70	.138	#6-40	480
MS21259-3RH	MS21259-3LH	3/32	3.00	.80	.190	#10-32	920
		3/32		.80	.190	#10-32	920
MS21259-4RH	MS21259-4LH	1/8	3.59	1.05	.219	1/4-28	2000
		1/8		1.05	.219	1/4-28	2000
MS21259-5RH	MS21259-5LH	5/32	3.97	1.29	.250	1/4-28	2800
		5/32		1.29	.250	1/4-28	2800
MS21259-6RH	MS21259-6LH	3/16	4.17	1.31	.313	5/16-24	4200
		3/16		1.31	.313	5/16-24	4200
MS21259-7RH	MS21259-7LH	7/32	4.81	1.55	.375	3/8-24	5600
MS21259-8RH	MS21259-8LH	1/4	5.24	1.70	.438	3/8-24	7000
MS21259-9RH	MS21259-9LH	9/32	5.75	1.89	.500	7/16-20	8000
MS21259-10RH	MS21259-10LH	5/16	6.27	2.06	.563	1/2-20	9800



* Swaged terminal shall conform to As diameter for length 'X'. Sizes continue to -32RH/LH for 1" diameter cable. Ls dimensions are after swaging.

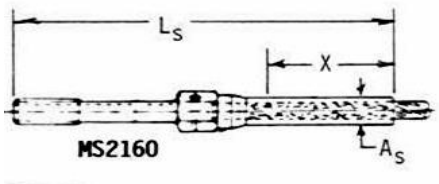
MS21260

Supercedes AN669 and NAS650

- Terminal, Wire Rope Stud.

Carbon Steel- Cadmium plated per QQ-P-416. 300 Series CRES-Passivated. MS parts can replace AN parts. MS parts are interchangeable with Nas parts. Hexagonal facing may be eliminated by optional design.

MS21260 RH	MS21260 LH	Wire Rope Diameter	Ls	X Min*	As	Thread	Strength Lbs
MS21260-L2RH	MS21260-L2LH	1/16	3.67	.70	.138	#6-40	480
MS21260-S2RH	MS21260-S2LH	1/16	2.79	.70	.138	#6-40	480
MS21260-L3RH	MS21260-L3LH	3/32	3.86	.80	.190	#10-32	920
MS21260-S3RH	MS21260-S3LH	3/32	2.98	.80	.190	#10-32	920
MS21260-L4RH	MS21260-L4LH	1/8	4.28	1.05	.219	1/4-28	2000
MS21260-S4RH	MS21260-S4LH	1/8	3.40	1.05	.219	1/4-28	2000
MS21260-L5RH	MS21260-L5LH	5/32	4.66	1.29	.250	1/4-28	2800
MS21260-S5RH	MS21260-S5LH	5/32	3.78	1.29	.250	1/4-28	2800
MS21260-L6RH	MS21260-L6LH	3/16	4.78	1.31	.313	5/16-24	4200
MS21260-S6RH	MS21260-S6LH	3/16	3.90	1.31	.313	5/16-24	4200
MS21260-7RH	MS21260-7LH	7/32	5.21	1.55	.375	3/8-24	5600
MS21260-8RH	MS21260-8LH	1/4	5.52	1.70	.438	3/8-24	7000
MS21260-9RH	MS21260-9LH	9/32	5.90	1.89	.500	7/16-20	8000
MS21260-10RH	MS21260-10LH	5/16	6.30	2.06	.563	1/2-20	9800

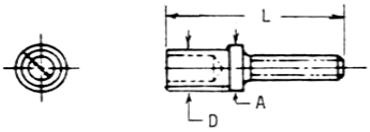


* Swaged terminal shall conform to As diameter for length 'X'. Sizes continue to -32RH/LH for 1" diameter cable. Ls dimensions are after swaging.

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AN490 -THREADED ROD END. 4130 Steel- Cadmium Plated per QQ-P-416.

AN490	L	A	D	Tube Size			Thread
AN490HT5P	1.750	.312	.242	5/16	x	.035	1/4-28
AN490HT6P	1.750	.375	.305	3/8	x	.035	1/4-28
AN490HT8P	1.750	.500	.430	1/2	x	.035	1/4-28
AN490HT10P	1.812	.625	.555	5/8	x	.035	5/16-24
AN490HT11P	1.812	.750	.680	3/4	x	.035	5/16-24
AN490HT13P	1.812	.625	.555	5/8	x	.035	3/8-24
AN490HT14P	1.812	.750	.680	3/4	x	.035	3/8-24
AN490HT15P	1.812	.500	.372	1/2	x	.035	5/16-24
AN490HT16P	1.812	.500	.372	1/2	x	.035	3/8-24

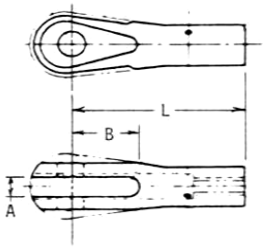


* HT 15 replaces HT9. HT16 replaces HT12.

AN665 - TERMINAL, THREADED CLEVIS TIE ROD.

Steel. Letter R denotes right threads. Letter L denotes left threads.

AN665		Pin hole					
RH	LH	Dia	L	A	B	Thread	Strength
AN665-10R	AN665-10L	.190	1.313	.109	.375	#6-40	1200LB
AN665-12R	AN665-12L	.190	1.531	.150	.150	#10-32	2400
AN665-34R	AN665-34L	.250	1.813	.203	.625	1/4-28	4200
AN665-46R	AN665-46L	.313	1.875	.203	.656	5/16-24	4600*
AN665-61R	AN665-61L	.375	2.000	.203	.844	5/16-24	6900
AN665-80RA	AN665-80LA	.375	2.250	.266	.875	3/8-24	10000
AN665-115R	AN665-115L	.438	2.500	.344	1.000	7/16-20	13700
AN665-155R	AN665-155L	.500	2.813	.406	1.188	1/2-20	18500
AN665-202R	AN665-202L	.563	3.125	.453	1.375	9/16-18	24000
AN665-247R	AN665-247L	.625	3.375	.516	1.500	5/8-18	29500
AN665-430R	AN665-430L	.750	4.125	.656	1.938	3/4-16	42000
AN665-580R	AN665-580L	.875	4.875	.781	2.313	7/8-14	58000
AN665-780R	AN665-780L	1.000	5.750	.906	2.688	1/12	76000

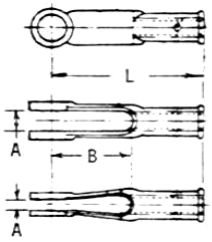


*Special for use with 6900LB rod with 4600LB rating.

MS27975 Supercedes AN486 - CLEVIS,ROD END ADJUSTING. Parts are interchangeable.

Carbon Steel- Cadium Plated per QQ-P-416.

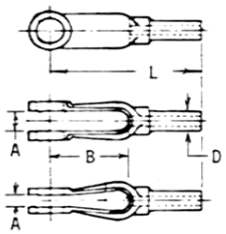
			Pin hole					Ultimate (MIN)
MS27975	AN486	Type	Dia	L	A	B	Thread	Axial Load (LB)
MS27975-1	AN486-1	Wide	.250	1.875	.266	1.000	1/4-28	3800
MS27975-2	AN486-2	Narrow	.250	1.875	.141	1.000	1/4-28	2850
MS27975-3	AN486-3	Wide	.188	1.875	.266	1.000	1/4-28	4700
MS27975-4	AN486-4	Narrow	.188	1.875	.141	1.000	1/4-28	3500



MS27976 Supercedes AN481 - CLEVIS, ROD END,PLAIN. Parts are interchangeable.

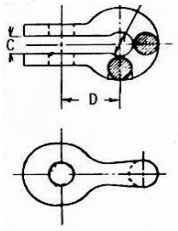
Steel- Unplated. Steel- Cadmium plated per QQ-P-416.

			Hole					Ultimate (Min)
MS27976	AN481	Type	Dia	L	A	B	D	Axial Load(LBS)
MS27976-1	AN481-1	Wide	.250	1.875	.266	1.000	.305	3800
MS27976-2	AN481-2	Narrow	.250	1.875	.141	1.000	.305	2850
MS27976-3	AN481-3	Wide	.188	1.875	.266	1.000	.305	4700
MS27976-4	AN481-4	Narrow	.188	1.875	.141	1.000	.305	3500
MS27976-5	AN481-5	Wide	.250	1.875	.266	1.000	.242	3800
MS27976-6	AN481-6	Narrow	.250	1.875	.141	1.000	.242	2850
MS27976-7	AN481-7	Wide	.188	1.875	.266	1.000	.242	4700
MS27976-8	AN481-8	Narrow	.188	1.875	.141	1.000	.242	3500
MS27976-9	AN481-9	Wide	.250	1.875	.266	1.000	.430	3800
MS27976-10	AN481-10	Narrow	.250	1.875	.141	1.000	.430	2850
MS27976-11	AN481-11	Wide	.188	1.875	.266	1.000	.430	4700
MS27976-12	AN481-12	Narrow	.188	1.875	.141	1.000	.430	3500



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MS20115 Supercedes **AN115**- WIRE ROPE SHACKLE. Parts are not interchangeable.
Example part # : MS20115-3 (CRES) , MS20115F3 (CROME STEEL) , MS20115K3 (Nickel Copper Aluminum Alloy), AN115-16 (Cadmium Plated Steel), AN115C21 (CRES), AN115K32 (Nickel Copper Aluminum Alloy).



MS20115	Wire Rope Dia.	Pin Hole Dia.	A	B	C	Min. Break Strength	AN115	Pin Hole Dia.	A	B	C	Min Break Strength
MS20115-2	1/16	.190	.188	.562	.093	480LBS	AN115-8	.188	.250	.563	.109	800LBS
MS20115-3	3/32	.190	.219	.562	.108	920	AN115-16	.188	.250	.563	.150	1600
MS20115-4	1/8	.190	.250	.562	.195	2000	AN115-21	.188	.250	.563	.150	2100
MS20115-5	5/32	.250	.281	.750	.202	2800	AN115-32	.250	.375	.750	.203	3200
MS20115-6	3/16	.313	.75	.812	.260	4200	AN115-46	.313	.438	.813	.203	4600
MS20115-7	7/32	.313	.406	.875	.296	5600	AN115-61	.375	.500	.875	.203	6100
MS20115-8	1/4	.375	.438	1.000	.313	7000	AN115-80	.375	.438	1.000	.266	8000
MS20115-9	9/32	.438	.500	1.000	.327	8000	AN115-125	.438	.625	1.125	.344	12500
MS20115-10	5/16	.438	.594	1.125	.348	9800	AN115-175	.500	.625	1.250	.406	17500
MS20115-12	3/8	.500	.625	1.250	.380	14000						

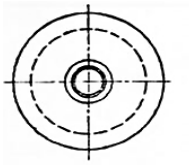
AIRCRAFT PULLEYS

MS20219 Supercedes **AN219**- Secondary Control Pulley.
Metallic Sheaves : Aluminum alloy -T351 or AMS, T351. Anodized per MIL-A-8625.
Nonmetallic Sheaves: Phenolic. Replace dash (-) with A to denote metallic sheaves.
NOTE: Pulleys smaller than 2- shall not be installed in flight control systems.

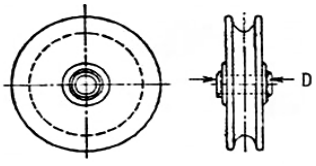
MS20220 Supercedes **AN220** - Flight Control Pulley.
Metallic Sheaves: Aluminum alloy - T351 or AMS 4037,T351. Andized per MIL-A-8625.
Non metallic Sheaves: Phenolic. Replace dash (-) with A to denote metallic sheave.

MS20221 Supercedes **AN221** - Heavy Duty Control Pulley.
Metallic Sheaves : Aluminum alloy - T351 or AMS4037, T351. Anodized per MIL-A-8625.
Nonmetallic Sheaves: Phenolic. Replace dash (-) with A to denote metallic sheaves.
Note: The -1 nonmetallic pulley removed from this standard and applicable specification.

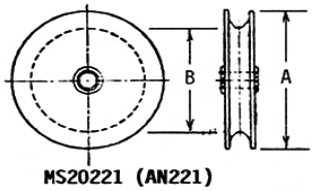
MS24566 Supercedes **AN210** - Anti- Friction Bearing Control Pulley.
Phenolic.
NOTE: -1B and -3B shall not be installed on frequently used aircraft controls to bend cable more 15 from a straight line.



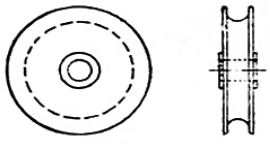
MS20219 (AN219)



MS20220 (AN220)



MS20221 (AN221)


MS24566 (AN210)

Part #	Cable Dia.	A	B	Bore C	D	Allowable Limit Load	Limit Load on Cable Independent of Wrap Angle 1/16 cable	3/32 cable			Bearing (Ref)
MS20219-1	1/16,3/32	1.312	1.000	.2500	.438	480LBS	307LBS	460LBS			W4AK(1)
MS20219-2	1/16,3/32	1.750	1.438	.2500	.438	480	307	460			P4K
MS20219-3	1/16,3/32	1.750	1.438	.6250	.438	480	307	460			P10K
MS20219-4	1/16,3/32	2.625	2.312	.2500	.438	920	307	460			P4K
MS20219-5	1/16,3/32	2.625	2.312	.6250	.438	920	307	460			P10K
							1/8 cable	5/32 cable	3/16 cable		
MS20220-1	1/8,5/32,3/16	1.750	1.250	.3125	.625	500	830	1040	1250		P5K
MS20220-2	1/8,5/32,3/16	3.000	2.500	.3125	.625	1680	830	1040	1250		PD5K
MS20220-3	1/8,5/32,3/16	4.250	3.750	.3125	.625	2500	830	1040	1250		PD5K
MS20220-4	1/8,5/32,3/16	5.500	5.000	.3125	.625	2500	830	1040	1250		PD5K
							3/16 cable	7/32 cable	1/4 cable		
MS20221A1	3/16,7/32,1/4	2.625	2.000	.3125	.625	2800	2620	3060	3500		PD5K
MS20221A2	3/16,7/32,1/4	4.125	3.500	.5000	.750	4900	2620	3060	3500		P8
MS20221A3	3/16,7/32,1/4	5.625	5.000	.5000	.750	7000	2620	3060	3500		P8
MS24566-1B	1/16,3/32	1.250	.972	.1900	.297	300					KP3AK
MS24566-2B	1/16,3/32	2.500	2.222	.1900	.297	500					KP3K
MS24566-3B	1/8,5/32,3/16	2.000	1.510	.2500	.484	600					KP4K
MS24566-4B	1/8,5/32,3/16	3.500	3.010	.2500	.484	1200					KP4K
MS24566-5B	3/16,7/32,1/4	5.000	4.374	.3750	.620	3000					KP6
MS24566-6B	3/16,7/32,1/4	6.000	5.374	.3750	.620	4000					KP6

(1) P4K is an approved alternate for W4AK.

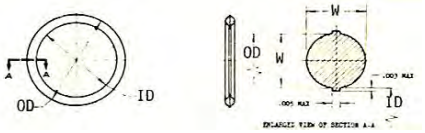
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MS28775 Supercedes **AN6227** (O'Ring Packing) and **AN6230**

(O'Ring Gasket) for Hydraulic Oils (MIL-H-5606B).
TYPE II SYSTEMS @-65 to 275 F.

MS29513- O'Ring Packing for Jet Fuels @-65 TO 275 F.

All AN-MS-NAS Mil-Spec O'Rings are available with manufacturer certification.



	1/16" WIDTH			3/32" WIDTH			1/8" WIDTH			3/16 WIDTH		
		MS28775			MS28775		AN6227	MS28775			MS28775	
ID	**AN6227**	MS29513	**OD**	**AN6227**	MS29513	**OD**	**AN6230**	MS29513	**OD**	**AN6227**	MS29513	**OD**
1/16		MS28775-003	3/16		MS28775-102	1/4						
5/64		MS28775-004	13/64									
3/32		MS28775-005	7/32		MS28775-103	9/32						
1/8	**B1**	MS28775-006	1/4		MS28775-104	5/16						
5/32	**B2**	MS28775-007	9/32		MS28775-105	11/32						
3/16	**B3**	MS28775-008	5/16		MS28775-106	3/8		MS28775-201	7/16			
7/32	**B4**	MS28775-009	11/32		MS28775-107	13/32						
1/4	**B5**	MS28775-010	3/8		MS28775-108	7/16		MS28775-202	1/2			
5/16	**B6**	MS28775-011	7/16		MS28775-109	1/2		MS28775-203	9/16			
3/8	**B7**	MS28775-012	1/2	**B8**	MS28775-110	9/16		MS28775-204	5/8			
7/16		MS28775-013	9/16	**B9**	MS28775-111	5/8		MS28775-205	11/16		MS28775-309	13/16
1/2		MS28775-014	5/8	**B10**	MS28775-112	11/16		MS28775-206	3/4		MS28775-310	7/8
9/16		MS28775-015	11/16	**B11**	MS28775-113	3/4		MS28775-207	13/16		MS28775-311	15/16
5/8		MS28775-016	3/4	**B12**	MS28775-114	13/16		MS28775-208	7/8		MS28775-312	1
11/16		MS28775-017	13/16	**B13**	MS28775-115	7/8	6227	MS28775-209	15/16		MS28775-313	1-1/16
3/4		MS28775-018	7/8	**B14**	MS28775-116	15/16	**B15**	MS28775-210	1		MS28775-314	1-1/8
13/16		MS28775-019	15/16		MS28775-117	1	**B16**	MS28775-211	1-1/16		MS28775-315	1-3/16
7/8		MS28775-020	1		MS28775-118	1-1/16	**B17**	MS28775-212	1-1/8		MS28775-316	1-1/4
15/16		MS28775-021	1-1/16		MS28775-119	1-1/8	**B18**	MS28775-213	1-3/16		MS28775-317	1-5/16
1		MS28775-022	1-1/8		MS28775-120	1-3/16	**B19**	MS28775-214	1-1/4		MS28775-318	1-3/8
1-1/16		MS28775-023	1-3/16		MS28775-121	1-1/4	**B20**	MS28775-215	1-5/16		MS28775-319	1-7/16
1-1/8		MS28775-024	1-1/4		MS28775-122	1-5/16	**B21**	MS28775-216	1-3/8		MS28775-320	1-1/2
1-3/16		MS28775-025	1-5/16		MS28775-123	1-3/8	**B22**	MS28775-217	1-7/16		MS28775-321	1-9/16
1-1/4		MS28775-026	1-3/8		MS28775-124	1-7/16	**B23**	MS28775-218	1-1/2		MS28775-322	1-5/8
1-5/16		MS28775-027	1-7/16		MS28775-125	1-1/2	**B24**	MS28775-219	1-9/16		MS28775-323	1-11/16
1-3/8		MS28775-028	1-1/2		MS28775-126	1-9/16	**B25**	MS28775-220	1-5/8		MS28775-324	1-3/4
1-7/16					MS28775-127	1-5/8	**B26**	MS28775-221	1-11/16			
1-1/2		MS28775-029	1-5/8		MS28775-128	1-11/16	**B27**	MS28775-222	1-3/4	**B28**	MS28775-325	1-7/8
1-9/16					MS28775-129	1-3/4	6230					
1-5/8		MS28775-30	1-3/4		MS28775-130	1-13/16	**B1**	MS28775-223	1-7/8	**B29**	MS28775-326	2
1-11/16					MS28775-131	1-7/8						
1-3/4		MS28775-31	1-7/8		MS28775-132	1-15/16	**B2**	MS28775-224	2	**B30**	MS28775-327	2-1/8
1-13/16					MS28775-133	2						
1-7/8		MS28775-32	2		MS28775-134	2-1/16	**B3**	MS28775-225	2-1/8	**B31**	MS28775-328	2-1/4
1-15/16					MS28775-135	2-1/8						
2		MS28775-33	2-1/8		MS28775-136	2-3/16	**B4**	MS28775-226	2-1/4	**B32**	MS28775-329	2-3/8
2-1/16					MS28775-137	2-1/4						
2-1/8		MS28775-34	2-1/4		MS28775-138	2-5/16	**B5**	MS28775-227	2-3/8	**B33**	MS28775-330	2-1/2
2-3/16					MS28775-139	2-3/8						
2-1/4		MS28775-35	2-3/8		MS28775-140	2-7/16	**B6**	MS28775-228	2-1/2	**B34**	MS28775-331	2-5/8
2-5/16					MS28775-141	2-1/2						
2-3/8		MS28775-36	2-3/4		MS28775-142	2-9/16	**B7**	MS28775-229	2-5/8	**B35**	MS28775-332	2-3/4
2-7/16					MS28775-143	2-5/8						
2-1/2		MS28775-37	2-5/8		MS28775-144	2-11/16	**B8**	MS28775-230	2-3/4	**B36**	MS28775-333	2-7/8
2-9/16					MS28775-145	2-3/4						
2-5/8		MS28775-38	2-3/4		MS28775-146	2-13/16	**B9**	MS28775-231	2-7/8	**B37**	MS28775-334	3
2-11/16					MS28775-147	2-7/8						
2-3/4		MS28775-39	2-7/8		MS28775-148	2-15/16	**B10**	MS28775-232	3	**B38**	MS28775-335	3-18
2-13/16					MS28775-149	3						
2-7/8		MS28775-40	3		MS28775-150	3-1/16	**B11**	MS28775-233	3-1/8	**B39**	MS28775-336	3-1/4
3					MS28775-151	3-3/16	**B12**	MS28775-234	3-1/4	**B40**	MS28775-337	3-3/8
Continue to:		MS28775-50	5-3/8		MS28775-178	9-15/16		MS28775-284	18-1/4		MS28775-395	26-3/8

* Sizes (-029 thru -050), (-102 thru -178),(-201 thru -209),(-248 thru -270), (-271 thru -284), (-309 thru -324, (-350 thru -365), (-366 thru -395), and (-461 thru -465), do not have installation control per MIL -G-5514 and are not recommended for use in hydraulic systems These sizes are only recommended for use in low pressure static or face seal application. O'Ring sizes (-013 thru -028), (-117 thru -149), and (-223 thru -247) are intended only for use as static seal and are not to be used in applications involving reciprocating or rotary involvement.

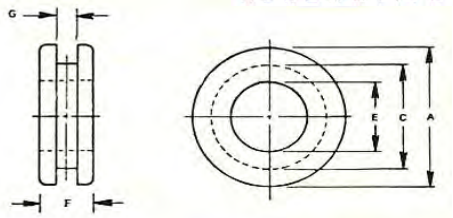
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MILITARY SPECIFICATION GROMMETS

MS35489 Supercedes **MS35490** and **AN931** - GROMMET.

Rubber - Synthetic, composition A, per MIL-G-3036.
Rubber - Silicone, composition B, per MIL-G-3036.
Add 'X' after dash (-) number to denote silicone.
MS35489 and AN931 parts are interchangeable.
Do not use MS35490 (Split Grommets) to replace MS35489 or AN931 grommets.

How to read this chart: Determine 'E' dimension, then 'C' & 'A'. Enter column for grove width to determine dash number.



			1/16			1/8			3/16			1/4		
Dimensions			.062 Groove Width (G)			.125 Groove Width			.188 Groove Width			.250 Groove Width		
E	C	A	**MS35489**	**AN931**	F	**MS35489**	**AN931**	F	**MS35489**	**AN931**	F	**MS35489**	**AN931**	F
.125	.250	.344	MS35489-1		.188									
.125	.562	.750	MS35489-2	-2-9	.188	MS35489-31	-A2-9	.250	MS35489-60	-B2-9	.312	MS35489-89	-C2-9	.375
.125	1.000	1.250	MS35489-3	-2-16	.250	MS35489-32	-A2-16	.312	MS35489-61	-B2-16	.375	MS35489-90	-C2-16	.438
.188	.312	.438	MS35489-4	-3-5	.188	MS35489-33	-A3-5	.250	MS35489-62	-B3-5	.312	MS35489-91	-C3-5	.375
.188	.562	.750	MS35489-134	-3-9	.188	MS35489-137	-A3-9	.250	MS35489-138	-B3-9	.312	MS35489-139	-C3-9	.375
.188	.625	.875	MS35489-5	-3-10	.188	MS35489-34	-A3-10	.250	MS35489-63	-B3-10	.312	MS35489-92	-C3-10	.375
.250	.438	.625	MS35489-6	-4-7	.188	MS35489-35	-A4-7	.250	MS35489-64	-B4-7	.312	MS35489-93	-C4-7	.375
.250	.750	1.000	MS35489-7	-4-12	.250	MS35489-36	-A4-12	.312	MS35489-65	-B4-12	.375	MS35489-94	-C4-12	.438
.250	1.000	1.250	MS35489-8	-4-16	.250	MS35489-37	-A4-16	.312	MS35489-66	-B4-16	.375	MS35489-95	-C4-16	.438
.312	.562	.812	MS35489-9	-5-9	.312	MS35489-38	-A5-9	.375	MS35489-67	-B5-9	.438	MS35489-96	-C5-9	.500
.312	.750	1.000	MS35489-10	-5-12	.312	MS35489-39	-A5-12	.375	MS35489-68	-B5-12	.438	MS35489-97	-C5-12	.500
.312	.812	1.062	MS35489-118	-5-13	.312	MS35489-122	-A5-13	.375	MS35489-136	-B5-13	.438	MS35489-130	-C5-13	.500
.375	.625	.875	MS35489-11	-6-10	.312	MS35489-40	-A6-10	.375	MS35489-69	-B6-10	.438	MS35489-98	-C6-10	.500
.375	1.000	1.250	MS35489-12	-6-16	.250	MS35489-41	-A6-16	.312	MS35489-70	-B6-16	.375	MS35489-99	-C6-16	.438
.438	.688	.938	MS35489-13	-7-11	.312	MS35489-42	-A7-11	.375	MS35489-71	-B7-11	.438	MS35489-100	-C7-11	.500
.500	.812	1.062	MS35489-14	-8-13	.312	MS35489-43	-A8-13	.375	MS35489-72	-B8-13	.438	MS35489-101	-C8-13	.500
.500	1.250	1.500	MS35489-15	-8-20	.250	MS35489-44	-A8-20	.312	MS35489-73	-B8-20	.375	MS35489-102	-C8-20	.438
.562	.812	1.062	MS35489-16	-9-13	.312	MS35489-45	-A9-13	.375	MS35489-74	-B9-13	.438	MS35489-103	-C9-13	.500
.625	.875	1.125	MS35489-17	-10-14	.312	MS35489-46	-A10-14	.375	MS35489-75	-B10-14	.438	MS35489-104	-C10-14	.500
.625	1.250	1.500	MS35489-18	-10-20	.250	MS35489-47	-A10-20	.312	MS35489-76	-B10-20	.375	MS35489-105	-C10-20	.438
.688	1.000	1.312	MS35489-19	-11-16	.375	MS35489-48	-A11-16	.438	MS35489-77	-B11-16	.500	MS35489-106	-C11-16	.562
.750	1.062	1.375	MS35489-20	-12-17	.375	MS35489-49	-A12-17	.438	MS35489-78	-B12-17	.500	MS35489-107	-C12-17	.562
.750	1.250	1.625	MS35489-135	-12-20	.250	MS35489-123	-A12-20	.312	MS35489-127	-B12-20	.375	MS35489-131	-C12-20	.438
.750	1.438	1.812	MS35489-21	-12-23	.375	MS35489-50	-A12-23	.438	MS35489-79	-B12-23	.500	MS35489-108	-C12-23	.562
.750	1.625	2.000	MS35489-120	-12-26	.375	MS35489-124	-A12-26	.438	MS35489-128	-B12-26	.500	MS35489-132	-C12-26	.562
.875	1.250	1.625	MS35489-22	-14-20	.438	MS35489-51	-A14-20	.500	MS35489-80	-B14-20	.562	MS35489-109	-C14-20	.625
.875	1.625	2.000	MS35489-121	-14-26	.438	MS35489-125	-A14-26	.500	MS35489-129	-B14-26	.562	MS35489-133	-C14-26	.625
1.000	1.375	1.750	MS35489-23	-16-22	.438	MS35489-52	-A16-22	.500	MS35489-81	-B16-22	.562	MS35489-110	-C16-22	.625
1.000	1.875	2.250	MS35489-24	-16-30	.438	MS35489-53	-A16-30	.500	MS35489-82	-B16-30	.562	MS35489-111	-C16-30	.625
1.250	2.375	2.750	MS35489-25	-20-38	.438	MS35489-54	-A20-38	.500	MS35489-83	-B20-38	.562	MS35489-112	-C20-38	.625
1.250	2.500	2.875	MS35489-26	-20-40	.438	MS35489-55	-A20-40	.500	MS35489-84	-B20-40	.562	MS35489-113	-C20-40	.625
1.500	1.750	2.125	MS35489-27	-24-28	.438	MS35489-56	-A24-28	.500	MS35489-85	-B24-28	.562	MS35489-114	-C24-28	.625
1.500	2.750	3.250	MS35489-28	-24-44	.438	MS35489-57	-A24-44	.500	MS35489-86	-B24-44	.562	MS35489-115	-C24-44	.625
1.750	3.250	3.750	MS35489-29	-28-52	.500	MS35489-58	-A28-52	.562	MS35489-87	-B28-52	.625	MS35489-116	-C28-52	.688
2.000	3.500	4.000	MS35489-30	-32-56	.500	MS35489-59	-A32-56	.562	MS35489-88	-B32-56	.625	MS35489-117	-C32-56	.688

FLEXIBLE DUCTING

SCAT Red. Single ply same as CAT except with silicone ruber impregnation.
VenaHT From -67 Deg F to over 500 Deg F.
Sold in Standard 13-Foot Lengths Only

Part#	Inside Diamter
SCAT-2A	5/8
SCAT-3	3/4
SCAT-3A	7/8
SCAT-4	1
SCAT-5	1-1/4
SCAT-6	1-1/2
SCAT-7	1-3/4
SCAT-8	2
SCAT-9	2-1/4
SCAT-10	2-1/2
SCAT-11	2-3/4
SCAT-12	3
SCAT-13	3-1/2
SCAT-14	4



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BREEZE

Aero-Seal Aircraft Clamps

The original stainless steel worm-drive clamp. Heavy-duty four-piece Quadra-Lock construction enables far more tightening torque to be delivered to the band perforations. Band is constructed of 300 series half hard stainless steel. 200 series clamps are constructed of 410 stainless. SKYBOLT stocks 200 series clamps with safety collared screws.







AN737TW **MS35842**

Standard Package - 10

QS200M	Effective Diameter Min	Max
QS200M06S	7/16	25/32
QS200M08S	1/2	29/32
QS200M10S	9/16	1- 1/16
QS200M12S	11/16	1- 1/4
QS200M16S	13/16	1- 1/2
QS200M20S	13/16	1- 3/4
QS200M24S	1- 1/16	2
QS200M28S	1- 5/16	2- 1/4
QS200M32S	1- 9/16	2- 1/2
QS200M36S	1-13/16	2- 3/4
QS200M40S	2- 1/16	3
QS200M44S	2- 5/16	3- 1/4
QS200M48S	2- 9/16	3- 1/2
QS200M52S	2-13/16	3- 3/4
QS200M56S	3- 1/16	4
QS200M60S	3- 5/16	4- 1/4
QS200M64S	3- 9/16	4- 1/2
QS200M72S	4- 1/8	5
QS200M80S	4- 5/8	5- 1/2
QS200M88S	5- 1/8	6
QS200M96S	5- 5/8	6- 1/2
QS200M104S	6- 1/8	7
QS200M128S	5- 5/8	8- 1/2
QS200M152S	7- 1/8	10
QS200M188S	9- 3/8	12-1/4

AN737TW*	Effective Diameter Min	Max
AN737TW22	7/16	11/16
AN737TW24	1/2	3/4
AN737TW26	9/16	13/16
AN737TW30	11/16	15/16
AN737TW34	13/16	1- 1/16
AN737TW38	15/16	1- 3/16
AN737TW44	61/64	1- 3/8
AN737TW46	1	1- 7/16
AN737TW48	1- 3/64	1- 1/2
AN737TW44-48	61/64	1- 1/2
AN737TW56	1-21/64	1- 3/4
AN737TW58	1- 3/8	1-13/16
AN737TW66	1- 5/8	2- 1/16
AN737TW56-66	1-21/64	2- 1/16
AN737TW74	1- 7/8	2- 5/16
AN737TW82	2- 1/8	2- 9/16
AN737TW91	2-13/32	2-27/32
AN737TW74-91	1- 7/8	2-27/32
AN737TW98	2- 5/8	3- 1/16
AN737TW107	2-29/32	3-11/32
AN737TW114	3- 1/8	3- 9/16
AN737TW98-114	2- 5/8	3- 9/16

MS35842	Effective Diameter Min	Max
MS35842-10	7/16	25/32
MS35842-11	11/16	1- 1/4
MS35842-12	1- 1/16	2
MS35842-13	1-13/16	2- 3/4
MS35842-14	2- 9/16	3- 1/2
MS35842-15	3- 5/16	4- 1/4
MS35842-16	4- 1/8	7

AeroSeal MINIATURES



Miniatures-Lightweight, streamlined clamps generally used for small (under 1") diameters. These clamps can handle pressures up to 1000psi with less than 15 in/lbs of torque

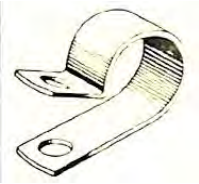
SKYBOLT stocks miniature clamps with 4-piece construction of 300 series stainless band and 410 series stainless hex screw.

MINIATURE CLAMPS

Standard Package - 10

Part#	Effective Diameter Min	Max
6604	7/32	5/8
6606	7/16	25/32
6608	1/2	29/32
6610	9/16	1- 1/16

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AN742 PLAIN CLAMP

Steel - Cadmium plated per QQ-P-416
Aluminum Alloy (D), CRES(F), High Temp(H).

Standard Package - 10

AN742	Tube Dia	AN742	Tube Dia
		AN742D27	
AN742D2	1/8	AN742D28	1- 3/4
AN742D3	3/16	AN742D29	
AN742D4	1/4	AN742D30	1- 7/8
AN742D5	5/16	AN742D31	
AN742D6	3/8	AN742D32	2
AN742D7	7/16	AN742D33	
AN742D8	1/2	AN742D34	2- 1/8
AN742D9	9/16	AN742D35	
AN742D10	5/8	AN742D36	2- 1/4
AN742D11	11/16	AN742D37	
AN742D12	3/4	AN742D38	2- 3/8
AN742D13	13/16	AN742D40	2- 1/2
AN742D14	7/8	AN742D42	
AN742D15	15/16	AN742D43	
AN742D16	1	AN742D44	2- 3/4
AN742D17	1- 1/16	AN742D45	
AN742D18	1- 1/8	AN742D46	
AN742D19	1- 3/16	AN742D48	3
AN742D20	1- 1/4	AN742D50	
AN742D21	1- 5/16	AN742D52	3- 1/4
AN742D22	1- 3/8	AN742D54	
AN742D23	1- 7/16	AN742D56	3- 1/2
AN742D24	1- 1/2	AN742D58	
AN742D25	1- 9/16	AN742D64	
AN742D26	1- 5/8	AN742D66	

MS21919 CUSHIONED CLAMP

Aluminum band with Cloroprene cushion (212F). For general purpose in areas contaminated with petroleum based hydraulic fluids and occasional fuel splash. Available CRES with silicone cushion (400F) or fluorosilicone cushion (450F).

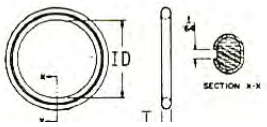
Note: List depicts WDG (wedged) clamps. Unless specified, DG clamps may be supplied at reduced pricing until stocks are depleted.

Standard Package - 10

MS21919	Tube Dia	MS21919	Tube Dia
MS21919WDG1	1/16	MS21919WDG27	
MS21919WDG2	1/8	MS21919WDG28	1- 3/4
MS21919WDG3	3/16	MS21919WDG29	
MS21919WDG4	1/4	MS21919WDG30	1- 7/8
MS21919WDG5	5/16	MS21919WDG31	
MS21919WDG6	3/8	MS21919WDG32	2
MS21919WDG7	7/16	MS21919WDG33	
MS21919WDG8	1/2	MS21919WDG34	2- 1/8
MS21919WDG9	9/16	MS21919WDG35	
MS21919WDG10	5/8	MS21919WDG36	2- 1/4
MS21919WDG11	11/16	MS21919WDG37	
MS21919WDG12	3/4	MS21919WDG38	2- 3/8
MS21919WDG13	13/16	MS21919WDG40	2- 1/2
MS21919WDG14	7/8	MS21919WDG42	
MS21919WDG15	15/16	MS21919WDG43	
MS21919WDG16	1	MS21919WDG44	2- 3/4
MS21919WDG17	1- 1/16	MS21919WDG45	
MS21919WDG18	1- 1/8	MS21919WDG46	
MS21919WDG19	1- 3/16	MS21919WDG48	3
MS21919WDG20	1- 1/4	MS21919WDG50	
MS21919WDG21	1- 5/16	MS21919WDG52	3- 1/4
MS21919WDG22	1- 3/8	MS21919WDG54	
MS21919WDG23	1- 7/16	MS21919WDG56	3- 1/2
MS21919WDG24	1- 1/2	MS21919WDG58	
MS21919WDG25	1- 9/16	MS21919WDG64	4
MS21919WDG26	1- 5/8	MS21919WDG66	

MS35769 Supercedes AN900 GASKET

Copper-Asbestos. Temperature to 500F
Pressure to 200PSI. Ring width = 1/4"
Thickness = 3/32"



Standard Package - 10

MS35769	AN900	ID	MS35769	AN900	ID
MS35769-1	AN900-3	3/16	MS35769-24	AN900-17	1- 1/16
MS35769-2	AN900-4	1/4	MS35769-26	AN900-18	1- 1/8
MS35769-5	AN900-5	5/16	MS35769-29	AN900-19	1- 3/16
MS35769-6	AN900-6	3/8	MS35769-31	AN900-20	1- 1/4
MS35769-8	AN900-7	7/16	MS35769-33	AN900-21	1- 5/16
MS35769-9	AN900-8	1/2	MS35769-35	AN900-22	1- 3/8
MS35769-10	AN900-9	9/16	MS35769-38	AN900-23	1- 7/16
MS35769-11	AN900-10	5/8	MS35769-39	AN900-24	1- 1/2
MS35769-13	AN900-11	11/16	MS35769-41	AN900-25	1- 9/16
MS35769-15	AN900-12	3/4	MS35769-42	AN900-26	1- 5/8
MS35769-17	AN900-13	13/16	MS35769-46	AN900-27	1-11/16
MS35769-20	AN900-15	15/16	MS35769-51	AN900-29	1-13/16
MS35769-21	AN900-16	1	MS35769-52	AN900-30	1- 7/8

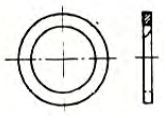
Note: This is not a complete list. Continental engine applications: A-65 thru O-200: AN900-10, Oil sump drain plug, oil temp probe, suction tube assembly. AN900-14, Oil Relief valve. AN900-22, Tach drive housing. AN900-28, Oil Screen.

AN901 GASKET

For Tube Connections
1100 Aluminum Alloy or Copper
Replace A with C to denote copper.

Standard Package - 10

AN901	Tube OD
AN901-4A	1/4
AN901-5A	5/16
AN901-6A	3/8
AN901-8A	1/2
AN901-10A	5/8



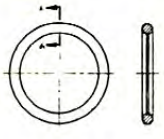
MS28778

Supercedes AN6290 Gasket

For Tube Fittings

Standard Package - 10

MS28778- AN6290-	Tube OD
MS28778-2	1/8
MS28778-3	3/16
MS28778-4	1/4
MS28778-5	5/16
MS28778-6	3/8
MS28778-8	1/2
MS28778-10	5/8



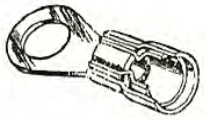
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ELECTRICAL TERMINALS

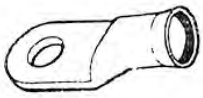
NYLON RING TERMINALS MS20659 Type II

Flared Nylon with Internal Sleeve

Part#	Wire Size	Stud	Color	STD PKG
FND2622-2	26-22	2		100
FND2622-3	26-22	4		100
FND2622-M3	26-22	6		100
FND2216-S3	22-18	4	Red	100
FND2216-M3	22-18	6	Red	100
FND2216-4	22-18	8	Red	100
FND2216-5	22-18	10	Red	100
FND2216-6	22-18	1/4	Red	100
FND2216-8	22-18	5/16	Red	100
FND2216-9	22-18	3/8	Red	100
FND1614-M3	16-14	6	Blue	100
FND1614-4	16-14	8	Blue	100
FND1614-M5	16-14	10	Blue	100
FND1614-6	16-14	1/4	Blue	100
FND1614-8	16-14	5/16	Blue	100
FND1614-9	16-14	3/8	Blue	100
FND1210-S3	12-10	6	Yellow	100
FND1210-4	12-10	8	Yellow	50
FND1210-5	12-10	10	Yellow	100
FND1210-S6	12-10	1/4	Yellow	50
FND1210-S8	12-10	5/16	Yellow	100
FND1210-9	12-10	3/8	Yellow	50
FN8-8	8	5/16		10
FN4-9	4	3/8		10
1582	2	3/8		10



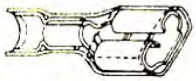
FND Terminals



1582 Terminals

FULLY INSULATED SPADE CONNECTOR

Part#	Wire Size	Type	TAB	STD PKG
LNDF2216T-250M	22-18	Female	.032X.250	100
LNDF1614T-250M	16-14	Female	.032X.250	100
LNDM2216T-250M	22-18	Male	.032X.250	100
LNDM1614T-250M	16-14	Male	.032X.250	100

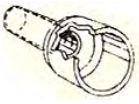


BUTT CONNECTOR

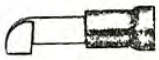
Part#	Wire Size	Type	Color	STD PKG
NDCW2216	22-18	Window,Nylon	Red	50
NDCW1614	16-14	Window,Nylon	Blue	50
NDCW1210	12-10	Window,Nylon	Yellow	50
NCL2622	26-22	Clear,Nylon	Yellow	100
NCL2216	22-18	Clear,Nylon	Red	100
NCL1614	16-14	Clear,Nylon	Blue	100
NCL1210	12-10	Clear,Nylon	Yellow	100
FVC2216WS	22-18	Insul,Vinyl	Red	100
FVC1614WS	16-14	Insul,Vinyl	Blue	100
FVC1210WS	12-10	Insul,Vinyl	Yellow	100
C1210	12-10	Uninsulated		50



CRIMP CONNECTOR - NYLON



KNIFE DISCONNECT - VINYL



Part#	Wire Size	Type	Color	STD PKG
FV2216K	22-18	Insluated	Red	100
FV1614K	16-14	Insulated	Blue	100
FV1210K	12-10	Insulated	Yellow	100

Part#	Wire Size
2218SDB	22-18
1614SDB	16-14
1210SDB	12-10

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ELECTRICAL - TUBING, SPIRAL WRAP, CABLE TIES

HEAT SHRINK TUBING - When placed over wire strand, Heat Shrink Tubing, when heated, shrinks to a neat insulating splice cover.

Packaged - 5ea 10" Lengths

Part#	Expanded Size	Recovered ID(Max)	Fully Recovered Nominal Wall
HST-16	1/16	.031	.017
HST-32	3/32	.046	.020
HST-18	1/8	.062	.020
HST-36	3/16	.093	.020
HST-14	1/4	.125	.025
HST-56	5/16	.156	.025
HST-38	3/8	.187	.025
HST-12	1/2	.250	.025
HST-10	1		.035

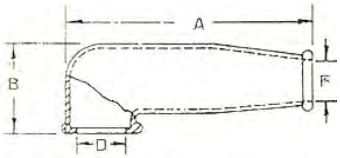
VINYL TUBING - For harnessing, cabling, and conduit protection on electrical equipment requiring clear tubing with good flexibility at low temperatures. Temperature range is -73C to 85C. Made to MIL-I-7444B, Type 1.

Part#	AWG Size	Nom ID	Nom Wall	Wire Size
PVC-80-12	12	.085	.016	
PVC-80-8	8	.133	.020	18
PVC-80-7	7	.148	.020	16
PVC-80-6	6	.166	.020	14
PVC-80-5	5	.186	.020	12
PVC-80-4	4	.208	.020	10
PVC-80-7/16	7/16	.438	.025	
PVC-80-1/2	1/2	.500	.025	2

PLASTIC SPIRAL WRAP TU - An effective way to bundle wire harnesses. Non-flame retardant. Clear

Part#	Bundle Dia
HT-1/4-C	3/16 to 2"
HT-3/8-C	5/16 to 3"
HT-1/2-C	3/8 to 4"

ELECTRICAL TERMINAL NIPPLE - MS25171
Class II Grade 50 Silicone.



Part#	A	B	D	F
MS25171-1S	1.38	.56	.40	.16
MS25171-2S	2.50	1.00	.56	.31
MS25171-3S	2.50	1.00	.56	.43
MS25171-4S	2.50	1.00	.56	.56



CABLE TIES

PART#	ALT#	Color	Length	Strength	MIN DIA	MAX DIA
HT102-O	8800B	Black	4"	18Lb	1/16	15/16
HT104-O	8801B	Black	5 1/2"	40	1/16	1-1/4
HT107-O	8802B	Black	7 1/2"	50	1/16	2-1/8
HT108-O	8803B	Black	11"	50	1/16	3
HT109-O	8804B	Black	15"	50	1/16	4

FBO Electrical Kit
(See Hardware Kits)

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The Skybolt® Team



Ned & Debra Bowers

....The Real Deal. Together, Ned and Debra bring decades of aviation experience, business, and engineering expertise to our manufacturing business.



Delta Air Lines CAPT. Ned C. Bowers
Homecoming - JAN. 13, 2017 Munich to Atlanta

Some History...As a young aviator, Ned built his first airplane in the family basement in Goose Bay, Labrador at age 5, where his father, Lt. Col. Win Bowers, was stationed after WWII during his career in the United States Air Force. Ned's first engineering job was with NASA on the Saturn V during Apollo, Skylab, and the Shuttle design program. Ned was hired by National Airlines in 1979 and is a recently retired Boeing 767-400ER Delta Airlines Captain. All said and done, between National, Pan Am and Delta, Ned flew over 1,000 Atlantic crossings, 25,000 hours with a perfect safety record, spanning 38 years flying for major airlines. "This kind of record was not by chance; it came from accepting the responsibility, and the consistent respect I have for the profession and the many support people dedicated to policy and integrity". Ned brings that same dedication to Skybolt and to our incredible team every day.

As Vice President & General Manager, Debra oversees and manages the daily operations of Skybolt, since February 2001. Her background includes many years of experience in sales, marketing, and event management within the aviation market, including her position as Programs & Development Director for the Sun 'n Fun Air Museum from 1988. In 1993, Debra joined Kermit Weeks as a member of his Opening Team at Fantasy of Flight as the Director of Marketing until 2001, before coming on board with Skybolt. Debra is a volunteer and member of the EAA Air Operations Team in Oshkosh, WI, working with the Air Ops Chairmen, Performers, and special guests and continues to work with Stallion 51 Corp. during special events throughout the year. An aviation professional with a keen instinct for customer appreciation and service, Debra rounds out a purposeful management team that represents the absolute finest in aviation expertise.



Between Ned and Debra Bowers, there is an immense amount of experience in aviation, aerospace, and performance racing they have shared through the years. "It is not by chance that we have set out to become a major player in aerospace manufacturing while cherishing the relationships with our customers, our friends, and the many great legends in the industries we serve."

Founders Win, Dotty and Ned Bowers.
Dad's A2 jacket (on the left) was made in 1942 and saw a lot of combat in the 15th Air Force. Ned's A2 jacket (on the right), was made in 1990. Ned honorably flew with the Collings Foundation for over 9-years which included hundreds of B17 and B24 veteran flights, reunions, and memorials all across America.





Skybolt® built a highly successful racing team in the 1990s through 2010 with driver Matt Bowers. Many thanks to Sean Tucker for the encouragement and 'words of wisdom' he has shared with all of our team during those years.

Skybolt® Team Members

April Braun	Sales Manager, Purchasing, Training	Joined Skybolt® 2003
Christy Exum	Shipping Manager, Invoicing & Sales	Joined Skybolt® 2007
Tyler Evans	Sales	Joined Skybolt® 2021
Brenda Fleming	AS9100 Quality Control Special Projects	Joined Skybolt® 2016
Betty Carr	Receiving – Quality Control	Joined Skybolt® 2005
Harry Swinnes	Machining Operations, SolidWorks and IT	Joined Skybolt® 2021
Blair Good	Production and Assembly Team	Joined Skybolt® 2019
Roger Danforth	Production and Assembly Team	Joined Skybolt® 2022
Erin McKay	Production and Assembly Team	Joined Skybolt® 2022
Susan Martin	Receiving – Quality Control	Joined Skybolt® 2018
Jody Perine	Production and Assembly Manager	Joined Skybolt® 2019
Carolyn Carlton	Accounting and Administration	Joined Skybolt® 1982
Carlos Osorio	Manager of Machining Operations	Joined Skybolt® 1993
Jeff Branch	Tool & Die, Machining Operations	Joined Skybolt® 2015
Russ Ortner	SolidWorks Engineering, Product Development	Joined Skybolt® 1998
Orestes Lorenzo	Flight Operations, Chief Pilot	Joined Skybolt® 2014
Matt Bowers	Marketing – Aviation, Racing, IT Specialist	Joined Skybolt® 1991
Patrick Recor	Mazak Programming-Machining	Joined Skybolt® 2021
Dave Mischia	Special Projects-Finishing	Joined Skybolt® 2019
Hanna Armitage	Sales – Special Projects- On Line Programming	Joined Skybolt® 2022
Sean Donnelly	Solid Works-Certs-3D Program Manager	Joined Skybolt® 2021
James Yates	Production and Assembly Team	Joined Skybolt® 2022
Ashley Hall	Production and Assembly Team	Joined Skybolt® 2022
Tom Hawley	Tool & Die, Quality Control, Plant Manager	Joined Skybolt® 2021

Tap Chart – Metric Threads

Tap size	Basic major dia (mm)	Basic major dia (inch)	mm per thread	Drill size (mm)	Drill size (inch)
M1.6 x 0.35	1,6mm	0.063	0.35	1,25mm	#55
M2 x 0.4	2mm	0.0787	0.4	1,6mm	#52
M2.5 x 0.45	2,5mm	0.0984	0.45	2,05mm	#46
M3 x 0.5	3mm	0.1181	0.5	2,5mm	#39
M3.5 x 0.6	3,5mm	0.1378	0.6	2,9mm	#32
M4 x 0.7	4mm	0.1575	0.7	3,3mm	#30
M5 x 0.8	5mm	0.1969	0.8	4,2mm	#19
M6 x 1	6mm	0.2362	1	5mm	#8
M8 x 1.25	8mm	0.315	1.25	6,8mm	H
M8 x 1	8mm	0.315	1	7mm	J
M10 x 1.5	10mm	0.3937	1.5	8,5mm	R
M10 x 1.25	10mm	0.3937	1.25	8,8mm	Nov-32
M12 x 1.75	12mm	0.4724	1.75	10,2mm	13/32
M12 x 1.25	12mm	0.4724	1.25	10,8mm	27/64
M14 x 2	14mm	0.5512	2	12mm	15/32
M14 x 1.5	14mm	0.5512	1.5	12,5mm	2-Jan
M16 x 2	16mm	0.6299	2	14mm	35/64
M16 x 1.5	16mm	0.6299	1.5	14,5mm	37/64
M18 x 2.5	18mm	0.7087	2.5	15,5mm	39/64
M18 x 1.5	18mm	0.7087	1.5	16,5mm	21/32
M20 x 2.5	20mm	0.7874	2.5	17,5mm	16-Nov
M20 x 1.5	20mm	0.7874	1.5	18,5mm	47/64
M22 x 2.5	22mm	0.8661	2.5	19,5mm	49/64
M22 x 1.5	22mm	0.8661	1.5	20,5mm	13/16
M24 x 3	24mm	0.9449	3	21mm	53/64
M24 x 2	24mm	0.9449	2	22mm	8-Jul
M27 x 3	27mm	1.063	3	24mm	15/16
M27 x 2	27mm	1.063	2	25mm	1

Tap Chart – UNC/UNF Threads

Tap size	NF/NC UNF/ UNC	Threads per inch	Basic major dia (inches)	Basic effective dia (inches)	Minor dia of ext. threads (inches)	Minor dia of int. threads (inches)	Drill size
0-80	UNF	80	0.06	0.0519	0.0447	0.0465	3/64
1-64	UNC	64	0.073	0.0629	0.0538	0.0561	#54
2-56	UNC	56	0.086	0.0744	0.0641	.0667	#50
2-64	UNF	64	0.086	0.0759	0.0668	.0691	#50
4-40	UNC	40	0.112	0.0958	0.0813	.0849	#43
4-48	UNF	48	0.112	0.0985	0.0864	.0894	#42
5-40	UNC	40	0.125	0.1088	0.0943	.0979	#38
5-44	UNF	44	0.125	0.1102	0.0971	.1004	#37
6-32	UNC	32	0.136	0.1177	0.0997	.1042	#36
6-40	UNF	40	0.136	0.1218	0.1073	.1109	#33
8-32	UNC	32	0.164	0.1437	0.1257	.1302	#29
8-36	UNF	36	0.164	0.146	0.1299	.1339	#29
10-24	UNC	24	0.19	0.1629	0.1389	.1449	#25
10-32	UNF	32	0.19	0.1697	0.1517	.1562	#21
1/4-20	UNC	20	0.25	0.2175	0.1887	.1959	#7
1/4-28	UNF	28	0.25	0.2268	0.2062	.2113	#3
5/16-18	UNC	18	0.3125	0.2764	0.2443	.2524	F
5/16-24	UNF	24	0.3125	0.2854	0.2614	.2674	I
3/8-16	UNC	16	0.375	0.3344	0.2983	.3073	5/16
3/8-24	UNF	24	0.375	0.3479	0.3239	.3299	Q
7/16-14	UNC	14	0.4375	0.3911	0.3499	.3602	U
7/16-20	UNF	20	0.4375	0.405	0.3762	.3834	25/64
1/2-13	UNC	13	0.5	0.45	0.4056	.4167	27/64
1/2-20	UNF	20	0.5	0.4675	0.4387	.4459	29/64
9/16-12	UNC	12	0.5625	0.5084	0.4603	.4723	31/64
9/16-18	UNF	18	0.5625	0.5264	0.4943	.5024	33/64
5/8-11	UNC	11	0.625	0.566	0.5135	.5266	17/32
5/8-18	UNF	18	0.625	0.5869	0.5568	.5649	37/64
3/4-10	UNC	10	0.75	0.665	0.6273	.6417	21/32
3/4-16	UNF	16	0.75	0.7094	0.6733	.6823	11/16
7/8-9	UNC	9	0.875	0.8028	0.7387	.7547	49/64
7/8-14	UNF	14	0.875	0.8286	0.7874	.7977	13/16
1-8	UNC	8	1	0.9188	0.8466	.8647	7/8
1-14	UNF	14	1	0.9459	0.8978	.9098	15/16
1 1/8-7	UNC	7	1.125	1.0322	0.9497	.9704	63/64
1 1/8-12	UNF	12	1.125	1.0709	1.0228	1.0348	1 3/64
1 1/4-7	UNC	7	1.25	1.1572	1.0747	1.0954	1 7/64
1 3/8-6	UNC	6	1.375	1.2667	1.1705	1.1946	1 13/64
1 1/2-6	UNC	6	1.5	1.3917	1.2955	1.3196	1 11/32
1 3/4-5	UNC	5	1.75	1.6201	1.5046	1.5335	1 35/64
2-4.5	UNC	4.5	2	1.8557	1.7274	1.7594	1 25/32

SKYBOLT
AEROSPACE FASTENERS

9000 Airport Blvd Leesburg, FL 34788
352-326-0001 352-326-0015 (FAX)
www.skybolt.com

Decimal Equivalents - Lettered Drills

No. Drill	In. Diam	No. Drill	In. Diam.	No. Drill	In. Diam
A	.234	J	.277	S	.348
B	.238	K	.281	T	.358
C	.242	L	.290	U	.368
D	.246	M	.295	V	.377
E	.250	N	.302	W	.386
F	.257	O	.316	X	.397
G	.261	P	.323	Y	.404
H	.266	Q	.332	Z	.413
I	.272	R	.339		



Decimal Equivalents - Numbered Drills

No. Drill	Size In.	No. Drill	Size In.	No. Drill	Size In.	No. Drill	Size In.
1	0.2230	21	0.1590	41*	0.0960	61	0.0390
2	0.2210	22	0.1570	42	0.0935	62	0.0380
3	0.2130	23	0.1540	43	0.0890	63	0.0370
4	0.2090	24	0.1520	44	0.0860	64	0.0360
5	0.2055	25	0.1495	45	0.0820	65	0.0350
6	0.2040	26	0.1470	46	0.0810	66	0.0330
7	0.2010	27	0.1440	47	0.0785	67	0.0320
8	0.1990	28	0.1405	48	0.0760	68	0.0310
9	0.1960	29	0.1360	49	0.0730	69	0.9292
10	0.1935	30*	0.1285	50	0.0700	70	0.0280
11	0.1910	31	0.1200	51	0.0670	71	0.0260
12	0.1890	32	0.1160	52	0.0635	72	0.0250
13	0.1850	33	0.1130	53	0.0595	73	0.0240
14	0.1820	34	0.1110	54	0.0550	74	0.0225
15	0.1800	35	0.1100	55	0.0520	75	0.0210
16	0.1770	36	0.1065	56	0.0465	76	0.0200
17	0.1730	37	0.1040	57	0.0430	77	0.0180
18	0.1695	38	0.1015	58	0.0420	78	0.0160
19	0.1660	39	0.0995	59	0.0410	79	0.0145
20	0.1610	40	0.0980	60	0.0400	80	0.0135

*Common 1/8 and 3/32 drills

Decimal Equivalents Chart

Inch Fraction	Decimal Equiv	Inch Fraction	Decimal Equiv.	Inch Fraction	Decimal Equiv
1/64	.0156	23/64	.3594	45/64	.7031
1/32	.0312	3/8	.375	23/32	.7187
3/64	.0469	25/64	.3906	47/64	.7344
1/16	.0625	13/32	.4062	3/4	.75
5/64	.0781	27/64	.4219	49/64	.7656
3/32	.0937	7/16	.4375	25/32	.7812
7/64	.1094	29/64	.4531	51/64	.7969
1/8	.125	15/32	.4687	13/16	.8125
9/64	.1406	31/64	.4844	53/64	.8281
5/32	.1562	1/2	.5	27/32	.8437
11/64	.1719	33/64	.5156	55/64	.8594
3/16	.1875	17/32	.5312	7/8	.875
13/64	.2031	35/64	.5469	57/64	.8906
7/32	.2187	9/16	.5625	29/32	.9062
15/64	.2344	37/64	.5781	59/64	.9219
1/4	.25	19/32	.5937	15/16	.9375
17/64	.2656	39/64	.6094	61/64	.9531
9/32	.2812	5/8	.625	31/32	.9687
19/64	.2969	41/64	.6406	63/64	.9844
5/16	.3125	21/32	.6562	1	1.00
21/64	.3281	43/64	.6719		
11/32	.3437	11/16	.6875		

Sheet Stock Gauge

No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std.)	No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std.)	No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std)
10	.1019	.1345	17	.0453	.0538	24	.0201	.0239
11	.0907	.1196	18	.0403	.0478	25	.0179	.0206
12	.0808	.1046	19	.0359	.0418	26	.0159	.0179
13	.0720	.0897	20	.0320	.0359	27	.0142	.0164
14	.0641	.0747	21	.0285	.0329	28	.0126	.0149
15	.0571	.0673	22	.0253	.0299	29	.0113	.0135
16	.0508	.0598	23	.0226	.0269	30	.0100	.0120

Conversions

.0394 inches = 1 mm
25.4 mm = 1 inch
Inches x 25.4 = mm
mm ÷ 25.4 = Inches
1 LB = 453.59 Grams
1 Gram = .0022 LB
LB x 453.59237 = Grams
Grams ÷ 453.59237 = LB

SKYBOLT

AEROSPACE FASTENERS

Drone™ Adjustable Panel Fastening

the right design for the right time



notable Cost Savings | notable Weight Savings
notable Logistical Advantages | stealth Advantages

SkyLoc® Adjusting CLoc® Drone™ Panel Fastening

- Drone™ Technology – The right idea for the right airframe
- Significant Cost Savings – Inventory and Spares
- 3 to 4 Part Numbers can cover entire airframe panel thicknesses (Fastener/Grommet-Retainer-Receptacle)
- One Stud can replace 7-8 dash numbers in large grip ranges - Reduced Inventory



Floating Adjustable Series Receptacle

SK203-22

For all 2000 Series CLoc® Panel Fasteners
Replace any SK212 Series Fixed Receptacles
(.750 Spacing – 3/32 Rivets)



Floating Adjustable Series Receptacle

SK403-22

For all 4000 Series CLoc® Panel Fasteners
Replace any SK214/244 Series Fixed Receptacles
(1.00 Spacing – 1/8 Rivets)

CLoc 2600 • 2700 • 2800					
Dash #	**L**	**Min**	**Max**	**Range**	**Dash Range**
1	0.61	0	0.17	0.17	6
2	0.64	0	0.2	0.2	7
3	0.67	0	0.23	0.23	8
4	0.7	0.03	0.28	0.25	8
5	0.73	0.06	0.31	0.25	8
6	0.76	0.09	0.34	0.25	8
7	0.79	0.12	0.37	0.25	8
8	0.82	0.15	0.4	0.25	8
9	0.85	0.18	0.43	0.25	8
10	0.88	0.21	0.46	0.25	8
11	0.91	0.24	0.49	0.25	8
12	0.94	0.27	0.52	0.25	8
13	0.97	0.3	0.55	0.25	8
14	1	0.33	0.58	0.25	8
15	1.03	0.36	0.61	0.25	8
16	1.06	0.39	0.64	0.25	8
17	1.09	0.42	0.67	0.25	8
18	1.12	0.45	0.7	0.25	8
19	1.15	0.48	0.73	0.25	8
20	1.18	0.51	0.76	0.25	8

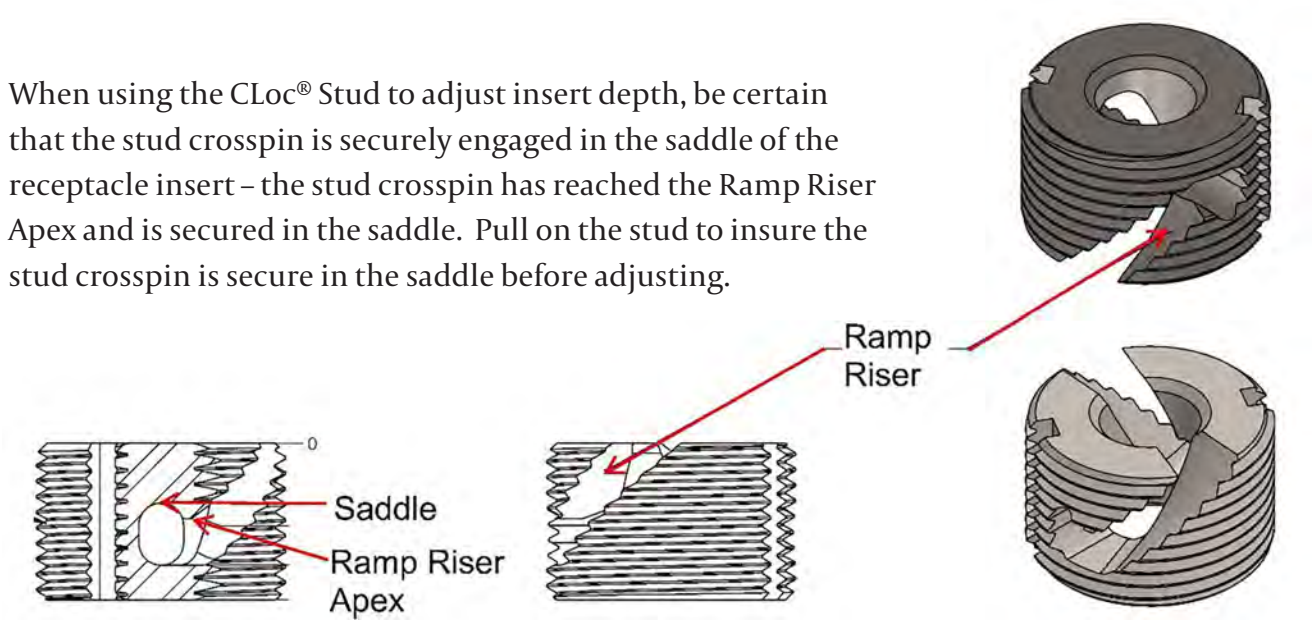


CLoc 4004 • 40S5					
Dash #	**L**	**Grommets Min**	**Grommets Max**	**Range**	**Dash Range**
2	0.69	0	0.09	0.09	3
3	0.72	0	0.12	0.12	4
4	0.75	0	0.15	0.15	5
5	0.78	0	0.18	0.18	6
6	0.81	0	0.21	0.21	7
7	0.84	0.03	0.24	0.21	7
8	0.87	0.06	0.27	0.21	7
9	0.9	0.09	0.3	0.21	7
10	0.93	0.12	0.33	0.21	7
11	0.96		0.36	0.21	7
12	0.99	0.18	0.39	0.21	7
13	1.02	0.21	0.42	0.21	7
14	1.05	0.24	0.45	0.21	7
15	1.08	0.27	0.48	0.21	7
16	1.11	0.3	0.51	0.21	7
17	1.14	0.33	0.54	0.21	7
18	1.17	0.36	0.57	0.21	7
19	1.2	0.39	0.6	0.21	7
20	1.23	0.42	0.63	0.21	7



Understanding & Adjusting CLoc®

When using the CLoc® Stud to adjust insert depth, be certain that the stud crosspin is securely engaged in the saddle of the receptacle insert – the stud crosspin has reached the Ramp Riser Apex and is secured in the saddle. Pull on the stud to insure the stud crosspin is secure in the saddle before adjusting.



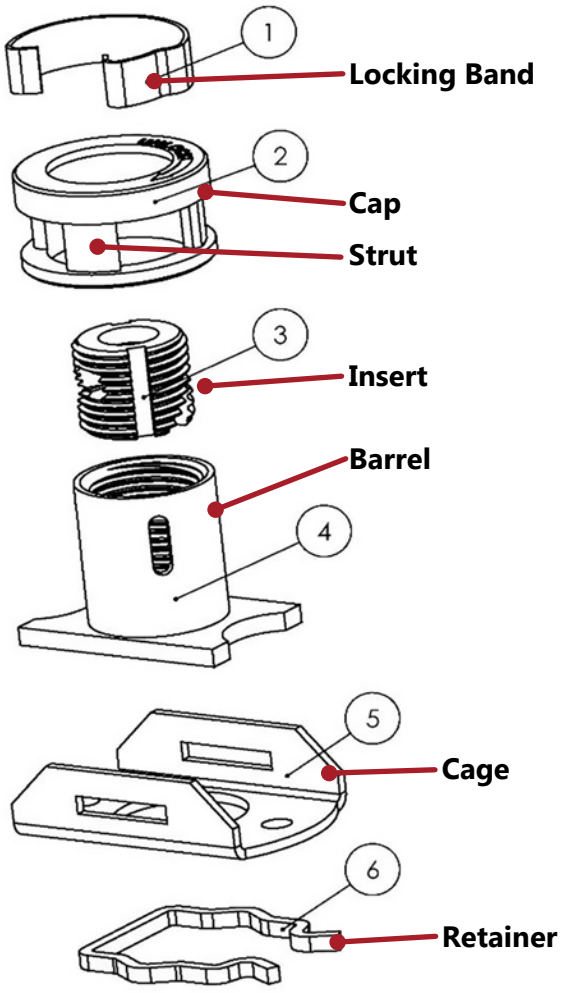


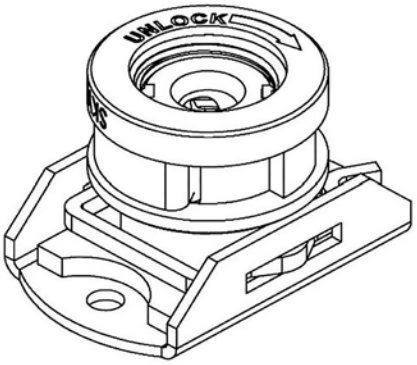
Correct (Locked)
Condition to Adjust Depth



Incorrect (Unlocked)
Condition

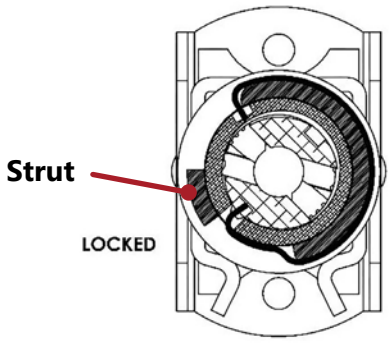
Skybolt SK203 & SK403
Adjustable Receptacles

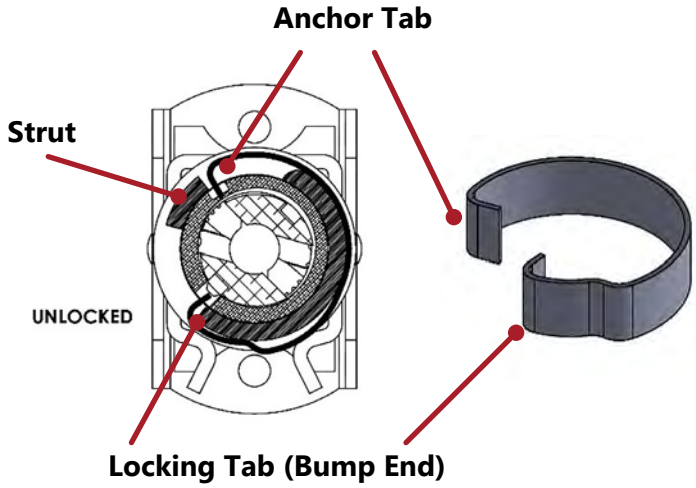




Item #	DWG #	Revision	QTY.
1	SK203C22-CLIP	A	1
2	SK203-22CAP	B	1
3	SK213C-INSERT	G	1
4	SK203C22B	–	1
5	SK203C-CAGE	G	1
6	SK201/203-CLIP	H	1

Mounting this side to edge





Skybolt SK203 & SK403
Adjustable Receptacles

1. The SK203 and SK403 Locking Cap require no tools to lock and unlock. Simply twist the cap clockwise (looking from the back of the receptacle) to unlock – counterclockwise to lock.
2. Note the "STRUT" location on the Cap
3. Note the two tangs ends of the Locking Band
    a) The Anchor Tab
    b) The Locking Tab (associated with the "Bump" on the band)
4. 4) Notice the recommended mounting side of the receptacle. This allows a line of sight to see if the cap is in the locked or unlocked condition.

When the Cap is rotated counterclockwise to the locked condition, lightly pinch the Locking Tab to insure it is in the locking condition when the insert is rotated to its correct clocked condition. After adjustment of the insert, turn the insert with a flat blade screwdriver to the closest insert groove (3) and note that the Locking Band drops into the down and locked condition. You may note a slight "click" when the insert is properly locked.

Note: Each vertical groove (3) on the insert equals .015 adjustment. Thus, one full turn is .030 or the equivalent of a stud length dash number. (CLoc® stud lengths vary by .030).

If the insert fails to lock, it is most likely that the locking band has been strained (over stretched) and replacement of the band will cure this problem. The receptacles are shipped in the locked condition to prevent any chance of "memory" in the locking band that may restrict its ability to properly lock the insert.

To replace a Locking Band – Pry the old Band out by placing the Cap in the unlocked position and insert a pick tool under the "bump". Lift the band and slide the pick tool around the inside of the Band to also pry the Anchor Tab.

Remove the Cap then reinstall the Cap such that the Strut is between the two vertical slots in the Barrel. Clip the Anchor Tab first into the Anchor Tab window of the cap. Push the Band around the cap with minimum stretch until the Locking Tab clicks into the Locking Tab window of the Cap. Rotate the cap counterclockwise such that both tabs drop into both vertical slots in the barrel. The design features of the Locking Cap function should be restored per the design.

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QL® Locking Series

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Patent Pending



For Potting – Epoxy Secured

SkyLoc® QL™ Series — Structural Panel Fasteners for High-Load, High-Vibration Environments



SkyLoc® External Thread (EXT) Series



SkyLoc® Stud Nut (SN) Series

The SkyLoc® QL™ Series represents Skybolt's next-generation structural fastening solution, engineered for applications where removable panels must carry significant shear and tensile loads while resisting vibration, fatigue, and repeated service cycles.

Designed for aerospace, defense, motorsport, and advanced industrial applications, SkyLoc® fasteners deliver structural load capacity with rapid installation and removal—reducing maintenance time without compromising strength or durability.

- Positive locking under severe vibration
- Tool-controlled installation and removal
- Consistent clamp load across wide grip ranges
- Long service life with high cycle performance
- Radial float receptacles accommodate misalignment and curved surfaces

Two Complementary Fastening Systems

SkyLoc® SN (Stud-Nut)

Multi-lead thread with integrated locking mechanism for quick-release structural applications. Available in Flat Head, Pan Head, and Knurled Head configurations.

SkyLoc® EXT (External-Thread)

Beam-style locking element for maximum structural performance and robust vibration resistance.

Applications

Aircraft engine access panels, nacelles, avionics enclosures, primary and secondary structural panels, high-performance motorsport bodywork, defense platforms.

SkyLoc® EXT — Maximum Structural Performance with Beam-Style Locking



SkyLoc® EXT Studs



SkyLoc® EXT Retainers



SkyLoc® EXT Grommets



SkyLoc® EXT Receptacles

The SkyLoc® EXT (External-Thread) family is designed for applications requiring maximum structural performance and robust vibration resistance. Utilizing a 1/4-28 two-lead external thread with a beam-style locking element, EXT fasteners deliver exceptional resistance to loosening, long service life, and tolerance for installation variability.

Specifications

Thread	1/4-28 2-Lead
Material	4140 Steel, Cadmium-Plated
Ultimate Tensile Strength	2,600 lbs-f (min)
Ultimate Single Shear	2,500 lbs-f (min)

Proven Applications

- F-15, F-16, F-22, F-35, F/A-18 fighter aircraft
- C-17, AC-130 cargo/transport aircraft
- KC-135 tanker aircraft
- E-2C/D, H-60 rotary and carrier-based aircraft

Advantages

- Higher load capacity than SN series
- Beam-style locking element for positive retention
- Tolerance for misalignment and curved panel geometry

Components shown are ordered separately

SkyLoc® EXT Studs — Flight-Critical Structural Fastening

Series: QL4S-EXT (Flat Head configuration)

EXT studs feature a 1/4-28 two-lead thread in 4140 cadmium-plated steel, for use in primary and secondary aircraft structures. Available in multiple grip ranges to support varying panel stack-ups.

Specifications

Grip Range Coverage	0.18" – 0.85"+ (varies by dash number)
Shank Diameter	0.2495" – 0.2470"

Typical Dash Numbers

QL4S-EXT2	Grip: 0.18" – 0.29"
QL4S-EXT4	Grip: 0.291" – 0.43"
QL4S-EXT6	Grip: 0.431" – 0.57"
QL4S-EXT8	Grip: 0.571" – 0.71"
QL4S-EXT10	Grip: 0.711" – 0.85"

Applications

- Primary structural panels
- Flight-critical access doors
- Engine nacelle installations
- High-load avionics enclosures



QL4S-EXT2
2-Lead Structural Stud
L=0.777 Grip 0.180-0.290



QL4S-EXT4
2-Lead Structural Stud
L=0.917 Grip 0.291-0.430



QL4S-EXT6
2-Lead Structural Stud
L=1.057 Grip 0.431-0.570



QL4S-EXT8
2-Lead Structural Stud
L=1.197 Grip 0.571-0.710



QL4S-EXT10
2-Lead Structural Stud
L=1.337 Grip 0.711-0.850

Components shown are ordered separately

SkyLoc® EXT Receptacles — Beam-Style Locking for Maximum Retention

EXT receptacles feature a beam-style locking element that provides positive retention under extreme vibration and dynamic loading. The receptacle design accommodates radial float and curved panel geometry while maintaining full structural load capacity.

Design Features

- Beam-style locking prevents fastener loosening
- Radial float for misalignment tolerance
- Field-replaceable for extended service life

Installation Methods

- Rivet-mounted configurations
- Bonded installations
- Tapped receptacles



QL4-21
EXT Nut Assembly

Receptacle Assembly Components

The EXT receptacle assembly consists of three precision-manufactured components:

QL4-NUT	
Thread	1/4-28 UNF-3B, 2-Lead
Material	4140 Steel
Finish	Cad Plate, Type II, Class 2
Equivalent	CA21021-1

QL4C-CAGE	
Material	17-7PH CRES
Heat Treat	TH1050
Finish	Passivated (AMS2700)
Equivalent	CA21021-2

QL4-BASE	
Material	4140 Steel
Finish	Cad Plate, Type II, Class 2
Equivalent	CA21021-3

Interchangeable with Industry Standard Parts

Components shown are ordered separately

SkyLoc® EXT Retainers — Structural Panel Retention

EXT retaining rings maintain stud alignment, provide panel retention, and accommodate radial float for manufacturing tolerances. Manufactured from 17-7PH precipitation-hardened stainless steel, Skybolt offers two finish options to meet varying application and specification requirements.

Available Configurations



QL4S-RET1
External Thread (EXT)
Retaining Ring
17-7PH Passivated

QL4S-RET1 — PASSIVATED FINISH	
Material	17-7PH SS, Passivated
NSN	5310-01-280-5784
Equivalent	CA21037-4R



QL4S-RET2
External Thread (EXT)
Retaining Ring
Cadmium Plated Type II, Class 2

QL4S-RET2 — CADMIUM PLATED	
Material	17-7PH SS, Cad Plated
NSN	5325-01-291-3626
Finish	Cadmium, Type II, Class 2
Equivalent	CA21037C-4R

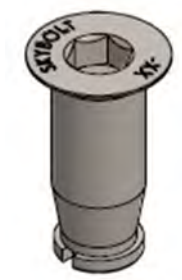


Dry film part numbers also available (QL4S-RET3) Equivalent to CA21037C-4R

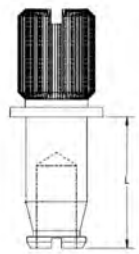
Interchangeable with Industry Standard Parts

Components shown are ordered separately

SkyLoc® SN — Quick-Release Structural Fastening with Multi-Lead Thread



SkyLoc® Quad Lead Flat Head



SkyLoc® Quad Lead Knurled Head



SkyLoc® Quad Lead Pan Head



SkyLoc® Quad Lead Receptacles

The SkyLoc® SN (Stud-Nut) family features a quad-lead (#8-32 4-Lead) thread design with an integrated locking mechanism that achieves secure engagement in just a few turns. Manufactured from 300-series stainless steel, SN fasteners deliver rapid access while maintaining structural integrity under vibration and dynamic loading.

Design Benefits

- Multi-lead thread for quick engagement (approximately 1/4 turn per thread advance)
- Positive locking prevents loosening under vibration
- Corrosion-resistant 300 stainless construction
- Compatible with industry-standard equivalents (Tridair® CA18XX series)
- NSN-listed configurations for defense applications

Head Style Options

- Flat Head — Flush or low-profile installations
- Pan Head — Enhanced visual installation confirmation
- Knurled Head — Improved handling in gloved or tool-limited environments

System Components

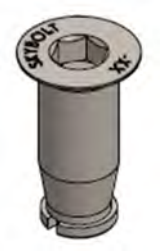
- Studs (multiple grip ranges)
- Kee'd and non-Kee'd threaded insert receptacles
- New Patent Pending removable insert receivers
- Retainers
- Panel grommets

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SkyLoc® SN
Standard Flat Head Studs

Low-Profile Structural Fastening

Flat Head SN studs provide flush or near-flush installation where aerodynamic smoothness, minimal protrusion, or clearance constraints are critical. Available in slotted and non-slotted configurations.



Series Available

- QL8C20 Series — Standard Flat Head
- QL8C32 Series — Slotted Flat Head (manual installation/removal capability)

Typical Applications

- Aircraft cowling panels
- Avionics bay covers
- Flush-mounted access panels
- Aerodynamic surface installations

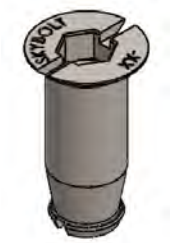
Standard Flat Head Series Refrence Table

		Rivet Receptacles		Threaded Receptacles	
Flat Head	L	Grip Min	Grip Max	Grip Min	Grip Max
QL8C20-0FH	0.375	0.120	0.156	0.160	0.156
QL8C20-1FH	0.437	0.156	0.250	0.186	0.250
QL8C20-2FH	0.531	0.531	0.344	0.281	0.344
QL8C20-3FH	0.625	0.344	0.438	0.374	0.438
QL8C20-4FH	0.718	0.438	0.531	0.468	0.531
QL8C20-5FH	0.812	0.532	0.625	0.562	0.625
QL8C20-6FH	0.906	0.626	0.719	0.656	0.719
QL8C20-7FH	1.000	0.719	0.813	0.749	0.813
QL8C20-8FH	1.093	0.813	0.906	0.843	0.906
QL8C20-9FH	1.187	0.907	1.000	0.937	1.000
QL8C20-10FH	1.281	1.001	1.094	1.031	1.094
QL8C20-11FH	1.375	1.094	1.875	1.124	1.875
QL8C20-12FH	1.468	1.188	1.281	1.218	1.281
QL8C20-13FH	1.562	1.282	1.375	1.312	1.375
QL8C20-14FH	1.656	1.376	1.469	1.406	1.469
QL8C20-15FH	1.750	1.470	1.563	1.500	1.563
QL8C20-16FH	1.843	1.563	1.656	1.593	1.656
QL8C20-17FH	1.936	1.657	1.750	1.687	1.750
QL8C20-18FH	2.032	1.751	1.844	1.781	1.844

SkyLoc® SN
Slotted Flat Head Studs

Low-Profile Structural Fastening

Flat Head SN studs provide flush or near-flush installation where aerodynamic smoothness, minimal protrusion, or clearance constraints are critical. Available in slotted and non-slotted configurations.



Series Available

- QL8C20 Series — Standard Flat Head
- QL8C32 Series — Slotted Flat Head (manual installation/removal capability)

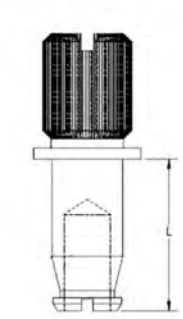
Typical Applications

- Aircraft cowling panels
- Avionics bay covers
- Flush-mounted access panels
- Aerodynamic surface installations

Slotted Flat Head Series Refrence Table					
		Rivet Receptacles		Threaded Receptacles	
Flat Head Slotted	L	Grip Min	Grip Max	Grip Min	Grip Max
QL8C32-0FHS	0.375	0.120	0.156	0.160	0.156
QL8C32-1FHS	0.437	0.156	0.250	0.186	0.250
QL8C32-2FHS	0.531	0.531	0.344	0.281	0.344
QL8C32-3FHS	0.625	0.344	0.438	0.374	0.438
QL8C32-4FHS	0.718	0.438	0.531	0.468	0.531
QL8C32-5FHS	0.812	0.532	0.625	0.562	0.625
QL8C32-6FHS	0.906	0.626	0.719	0.656	0.719
QL8C32-7FHS	1.000	0.719	0.813	0.749	0.813
QL8C32-8FHS	1.093	0.813	0.906	0.843	0.906
QL8C32-9FHS	1.187	0.907	1.000	0.937	1.000
QL8C32-10FHS	1.281	1.001	1.094	1.031	1.094
QL8C32-11FHS	1.375	1.094	1.875	1.124	1.875
QL8C32-12FHS	1.468	1.188	1.281	1.218	1.281
QL8C32-13FHS	1.562	1.282	1.375	1.312	1.375
QL8C32-14FHS	1.656	1.376	1.469	1.406	1.469

SkyLoc® Knurled Head Studs — Tactile Grip for Gloved Operations

Knurled Head SN studs feature a textured grip surface designed for operations in gloved, cold-weather, or tool-limited environments. The knurling provides positive manual engagement without requiring specialized tools.



Design Features

- Aggressive knurl pattern for reliable grip
- Tool-free installation/removal capability
- Suitable for field maintenance operations
- Same structural performance as smooth-head variants

Typical Applications

- Field-serviceable panels
- Cold-weather operation
- Glove-intensive maintenance environments
- Emergency access panels

Knurled Series Refrence Table

		Rivet Receptacles		Threaded Receptacles	
Skybolt #	L	Grip Min	Grip Max	Grip Min	Grip Max
QL8C28-0KN	0.343	0.120	0.156	0.160	0.156
QL8C28-1KN	0.437	0.156	0.250	0.186	0.250
QL8C28-2KN	0.531	0.251	0.344	0.281	0.344
QL8C28-3KN	0.625	0.344	0.438	0.374	0.438
QL8C28-4KN	0.718	0.438	0.531	0.468	0.531
QL8C28-5KN	0.812	0.532	0.625	0.562	0.625
QL8C28-6KN	0.906	0.626	0.719	0.656	0.719
QL8C28-7KN	1.000	0.719	0.813	0.749	0.813
QL8C28-8KN	1.093	0.813	0.906	0.843	0.906
QL8C28-9KN	1.187	0.907	1.000	0.937	1.000
QL8C28-10KN	1.281	1.001	1.094	1.031	1.094
QL8C28-11KN	1.375	1.094	1.875	1.124	1.875
QL8C28-12KN	1.468	1.188	1.281	1.218	1.281
QL8C28-13KN	1.562	1.282	1.375	1.312	1.375
QL8C28-14KN	1.656	1.376	1.469	1.406	1.469
QL8C28-15KN	1.750	1.470	1.563	1.500	1.563
QL8C28-16KN	1.843	1.563	1.656	1.593	1.656
QL8C28-17KN	1.936	1.657	1.750	1.687	1.750
QL8C28-18KN	2.032	1.751	1.844	1.781	1.844

SkyLoc® Pan Head Studs — Enhanced Grip and Visual Confirmation

Series: QL8C21 & QL8C24

Pan Head SN studs feature a raised head profile for improved manual grip, tool engagement, and visual installation confirmation. Ideal for maintenance-intensive environments where frequent access is required.



Advantages

- Larger bearing surface for positive engagement
- Easy visual verification of installation
- Improved handling with gloves or tools
- Wide grip range coverage

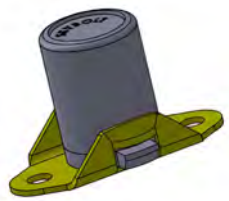
Typical Applications

- Engine access panels
- Maintenance hatches
- Equipment bay panels
- High-cycle service areas

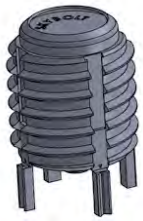
Pan Head Series Refrence Table

			Rivet Receptacles		Threaded Receptacles	
Pan Head	Pan Head Slotted	L	Grip Min	Grip Max	Grip Min	Grip Max
QL8C21-0PHS	QL8C24-0PH	0.375	0.120	0.156	0.160	0.156
QL8C21-1PHS	QL8C24-1PH	0.437	0.156	0.250	0.186	0.250
QL8C21-2PHS	QL8C24-2PH	0.531	0.251	0.344	0.281	0.344
QL8C21-3PHS	QL8C24-3PH	0.625	0.344	0.438	0.374	0.438
QL8C21-4PHS	QL8C24-4PH	0.718	0.438	0.531	0.468	0.531
QL8C21-5PHS	QL8C24-5PH	0.812	0.532	0.625	0.562	0.625
QL8C21-6PHS	QL8C24-6PH	0.906	0.626	0.719	0.656	0.719
QL8C21-7PHS	QL8C24-7PH	1.000	0.719	0.813	0.749	0.813
QL8C21-8PHS	QL8C24-8PH	1.093	0.813	0.906	0.843	0.906
QL8C21-9PHS	QL8C24-9PH	1.187	0.907	1.000	0.937	1.000
QL8C21-10PHS	QL8C24-10PH	1.281	1.001	1.094	1.031	1.094
QL8C21-11PHS	QL8C24-11PH	1.375	1.094	1.875	1.124	1.875
QL8C21-12PHS	QL8C24-12PH	1.468	1.188	1.281	1.218	1.281
QL8C21-13PHS	QL8C24-13PH	1.562	1.282	1.375	1.312	1.375
QL8C21-14PHS	QL8C24-14PH	1.656	1.376	1.469	1.406	1.469
QL8C21-15PHS	QL8C24-15PH	1.750	1.470	1.563	1.500	1.563
QL8C21-16PHS	QL8C24-16PH	1.843	1.563	1.656	1.593	1.656
QL8C21-17PHS	QL8C24-17PH	1.936	1.657	1.750	1.687	1.750
QL8C21-18PHS	QL8C24-18PH	2.032	1.751	1.844	1.781	1.844

SkyLoc®
SN Receptacles



QL8SA7
Caged Floating
Receptacle Assembly



QL8C62
4-Kee
Threaded Insert



QL8C78
Threaded Insert
Non Kee'd

Common Design Features

- Quad-lead ratchet cam mechanism
- Dual nested springs (17-7 PH SS)
- Positive quarter-turn engagement
- Compatible with Flat, Pan, and Knurled stud heads
- Field-serviceable components

Installation Options

- Threaded: Tapped hole installation (QL8C62, QL8C78)
- Rivet-mounted: Caged assembly with floating receptacle (QL8C10)
- Bonded: Adhesive-mount configurations available

QL8C62 Installation

Kee'd Threaded Insert —
Install .010–.030 below surface

1. Drill support structure with 29/64 drill to depth of .775 (thru hole tap)
2. C'Sink 82° or 100° to .510–.520 width
3. Tap 1/2-13 UNC-2B, .650 min depth
4. Install .010–.030 below surface
5. For hardened supports, broach with QL8-B1 Tool
6. Drive Kees with Skybolt QL8-T1 Tool

QL8C78 Installation

Non-Kee'd Threaded Insert —
Receptacle is flush with surface

1. Drill support structure with 25/64 drill to depth of .775 (thru hole tap)
2. C'Bore .105 to .140
3. Tap 7/16-20 UNF-2B
4. Loctite threads to desired depth

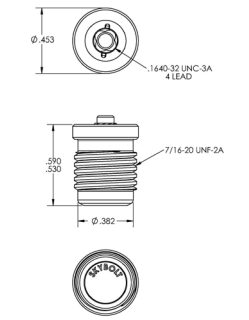
SkyLoc®
SN Receptacles



Kee'd Threaded Insert
QL8C62 Series

Four precision Kee inserts provide positive anti-rotation locking and field-replaceable serviceability. Ideal for high-vibration environments requiring maximum security.

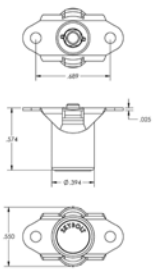
Thread	1/2-13 UNC
Material	303 SS / Passivate AMS 2700
4x Stud	A286, 140 KSI / Dry Film MIL-PRF-46010
Equivalent	CA18062



Threaded Insert (Non-Kee'd)
QL8C78 Series

Standard threaded insert with 4-lead quick-engage thread pattern. Provides reliable quarter-turn fastening for general-purpose access panel applications.

Thread	7/16-20 UNF-2A (4-lead)
Material	303 SS / Passivate AMS 2700
4x Stud	A286, 140 KSI / Dry Film MIL-PRF-46010
Equivalent	CA18178



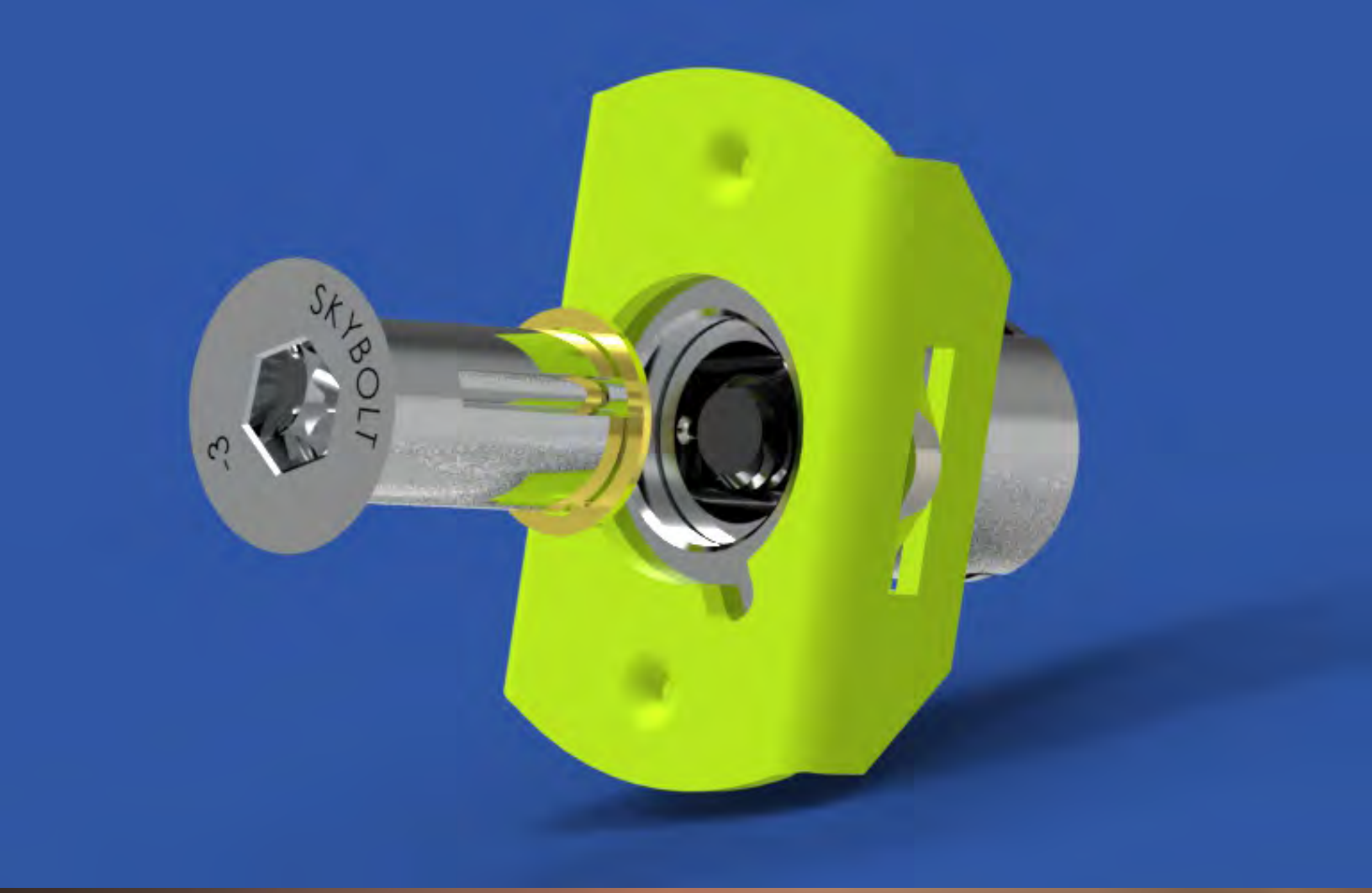
Caged Receptacle Assembly
QL8SA7 Series

Complete rivet-mounted assembly with floating cage for panel misalignment tolerance. Multiple grip ranges available for various panel thicknesses.

Tensile	1,650 lbs min
Shear	1,800 lbs max
Grip Range	.098" – 1.843" (19 dash numbers)
Equivalent	CA18157

Important Notes:

- Ensure proper length stud nut is used for panel thickness. If torque loads exceed 15 in-lbs and outer panel is not secure, the cams will be damaged requiring receptacle replacement. If cams are skipping, replace stud nut.
- If the stud nut is too long, it will force the end of the stud nut to compress the springs into coil bind. When this happens, the notches on the end will shear the small nubs on top of the upper cam, rendering the locking feature useless.
- Minimum Grip reduces 1:1 for every .001" receptacle is below the surface.
- If Min Grip is exceeded (less than charted), the cam system will fail requiring replacement of the receptacle.


SKYBOLT



SKYBOLT
AEROSPACE FASTENERS

9000 Airport Blvd Leesburg, FL 34788
352-326-0001 352-326-0015 (FAX)
www.skybolt.com

Decimal Equivalents - Lettered Drills

No. Drill	In. Diam	No. Drill	In. Diam.	No. Drill	In. Diam
A	.234	J	.277	S	.348
B	.238	K	.281	T	.358
C	.242	L	.290	U	.368
D	.246	M	.295	V	.377
E	.250	N	.302	W	.386
F	.257	O	.316	X	.397
G	.261	P	.323	Y	.404
H	.266	Q	.332	Z	.413
I	.272	R	.339		



Decimal Equivalents - Numbered Drills

No. Drill	Size In.	No. Drill	Size In.	No. Drill	Size In.	No. Drill	Size In.
1	0.2230	21	0.1590	41*	0.0960	61	0.0390
2	0.2210	22	0.1570	42	0.0935	62	0.0380
3	0.2130	23	0.1540	43	0.0890	63	0.0370
4	0.2090	24	0.1520	44	0.0860	64	0.0360
5	0.2055	25	0.1495	45	0.0820	65	0.0350
6	0.2040	26	0.1470	46	0.0810	66	0.0330
7	0.2010	27	0.1440	47	0.0785	67	0.0320
8	0.1990	28	0.1405	48	0.0760	68	0.0310
9	0.1960	29	0.1360	49	0.0730	69	0.9292
10	0.1935	30*	0.1285	50	0.0700	70	0.0280
11	0.1910	31	0.1200	51	0.0670	71	0.0260
12	0.1890	32	0.1160	52	0.0635	72	0.0250
13	0.1850	33	0.1130	53	0.0595	73	0.0240
14	0.1820	34	0.1110	54	0.0550	74	0.0225
15	0.1800	35	0.1100	55	0.0520	75	0.0210
16	0.1770	36	0.1065	56	0.0465	76	0.0200
17	0.1730	37	0.1040	57	0.0430	77	0.0180
18	0.1695	38	0.1015	58	0.0420	78	0.0160
19	0.1660	39	0.0995	59	0.0410	79	0.0145
20	0.1610	40	0.0980	60	0.0400	80	0.0135

*Common 1/8 and 3/32 drills

Decimal Equivalents Chart

Inch Fraction	Decimal Equiv	Inch Fraction	Decimal Equiv.	Inch Fraction	Decimal Equiv
1/64	.0156	23/64	.3594	45/64	.7031
1/32	.0312	3/8	.375	23/32	.7187
3/64	.0469	25/64	.3906	47/64	.7344
1/16	.0625	13/32	.4062	3/4	.75
5/64	.0781	27/64	.4219	49/64	.7656
3/32	.0937	7/16	.4375	25/32	.7812
7/64	.1094	29/64	.4531	51/64	.7969
1/8	.125	15/32	.4687	13/16	.8125
9/64	.1406	31/64	.4844	53/64	.8281
5/32	.1562	1/2	.5	27/32	.8437
11/64	.1719	33/64	.5156	55/64	.8594
3/16	.1875	17/32	.5312	7/8	.875
13/64	.2031	35/64	.5469	57/64	.8906
7/32	.2187	9/16	.5625	29/32	.9062
15/64	.2344	37/64	.5781	59/64	.9219
1/4	.25	19/32	.5937	15/16	.9375
17/64	.2656	39/64	.6094	61/64	.9531
9/32	.2812	5/8	.625	31/32	.9687
19/64	.2969	41/64	.6406	63/64	.9844
5/16	.3125	21/32	.6562	1	1.00
21/64	.3281	43/64	.6719		
11/32	.3437	11/16	.6875		

Sheet Stock Gauge

No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std.)	No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std.)	No. of Gauge	Gauge Alum (B & S)	Steel (U.S. Std)
10	.1019	.1345	17	.0453	.0538	24	.0201	.0239
11	.0907	.1196	18	.0403	.0478	25	.0179	.0206
12	.0808	.1046	19	.0359	.0418	26	.0159	.0179
13	.0720	.0897	20	.0320	.0359	27	.0142	.0164
14	.0641	.0747	21	.0285	.0329	28	.0126	.0149
15	.0571	.0673	22	.0253	.0299	29	.0113	.0135
16	.0508	.0598	23	.0226	.0269	30	.0100	.0120

Conversions

.0394 inches = 1 mm
25.4 mm = 1 inch
Inches x 25.4 = mm
mm ÷ 25.4 = Inches
1 LB = 453.59 Grams
1 Gram = .0022 LB
LB x 453.59237 = Grams
Grams ÷ 453.59237 = LB