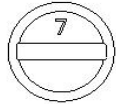


Skybolt CLoc® 2000 Series Fasteners

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



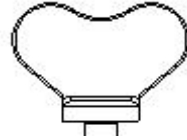
ZG2500, ZG2600
See Page 1 and 3



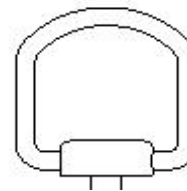
SK25S8, SK26S51
See Page 1 and 3
SK27S3, SK28S3, ZG28S3
See Page 5 and 6



SK2500, SK2600
See Page 1 and 3
SK2700, SK2800
See Page 5 and 6



SK2500W, ZG2500W,
SK2600W, ZG2600W
See Page 2 and 4



SK2500R, ZG2500R,
SK2600R, ZG2600R
See Page 2 and 4

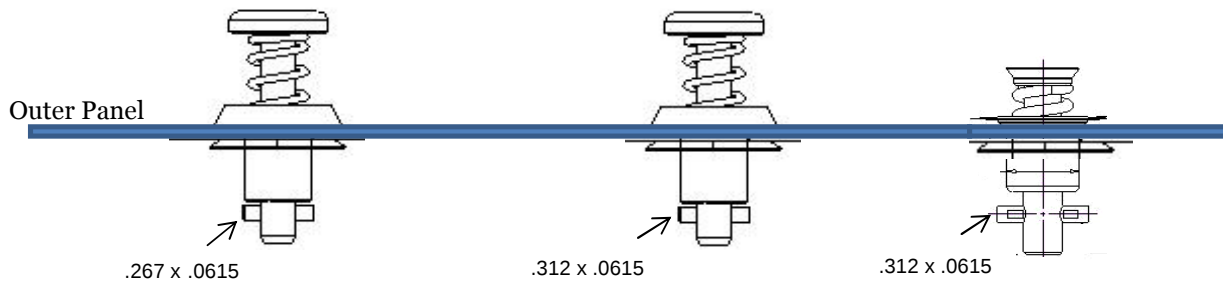
SK2500 and ZG2500 Series

SK2600 and ZG2600 Series

SK2700, SK2800 ZG2800

For 2500 and 2600 Series Studs, Drill Panel to .257 (F)
(Note: For panel thickness greater than .065, Drill Panel to .281)

For 2700 and 2800 Series Studs Non-Countersunk or Dimpled Panels -
Drill Panel to .310+ (Note: SK2600-SW Retainers will not work)
Dimpled Panels - Drill to .213 (#3) then dimple to 100 degrees



Retainers - See Page 7

SK212-10

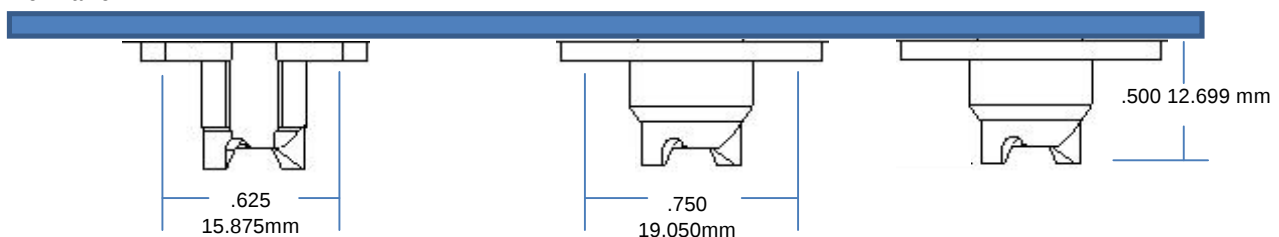
Drill Center Hole to .4375 (11.11mm) for all panels

SK212-12

Drill Center Hole to .500 (12.7mm) for all panels

SK212-12

Inner Panel



Receptacles - See Page 8 thru 11

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

Skybolt CLoc® 2000 Series Common Sets

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



Stainless Series - Flush Head

SK28S3-SET1	\$7.04	Total Grip Range
SK28S3-2S Phillips Stud SK2600-LWS Stud Retainer SK213-28 Adjustable Receptacle 1/8" Rivets		.020-.340

Most Common Aircraft Set

Skytanium® Series - Flush Head

ZG28S3-SET1	\$7.04	Total Grip Range
ZG28S3-2 Phillips Stud SK2600-LWS Stud Retainer SK213-28 Adjustable Receptacle 1/8" Rivets		.020-.340

Most Common NASCAR Set



Stainless Series - Protruding Head

SK26S51-SET1	\$7.26	Total Grip Range
SK26S51-1S Phillips Stud SK2600-LWS Stud Retainer SK213-28 Adjustable Receptacle 1/8" Rivets		.020-.400

Skytanium® Series - Protruding Head

ZG2600-SET1	\$7.28	Total Grip Range
ZG2600-1 Collared Slot Stud SK2600-LWS Stud Retainer SK213-28 Adjustable Receptacle 1/8" Rivets		.020-.400



ZG28S3/SK28S3



ZG2600

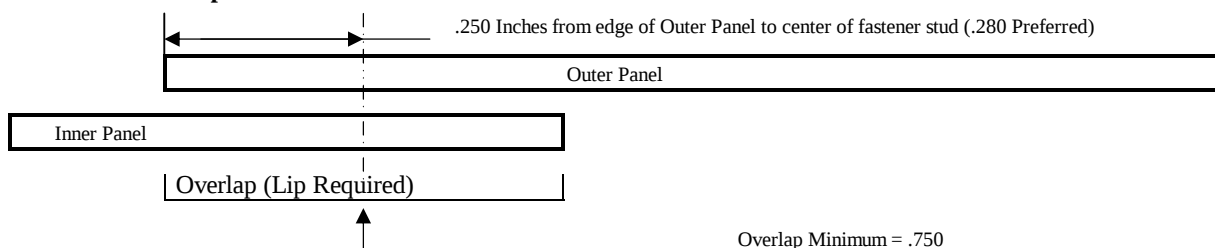


SK26S51



SK213-28

What does Overlap Mean?



Installation Tools Required -

Template-213	Template to drill rivet holes with #30 Drill	\$1.25
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Skybolt CLoc® SK2500 ZG2500 Protruding Head Series Stainless & Skytanium®

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

Light Weight Aerospace Panel Fasteners - 50% Weight Savings

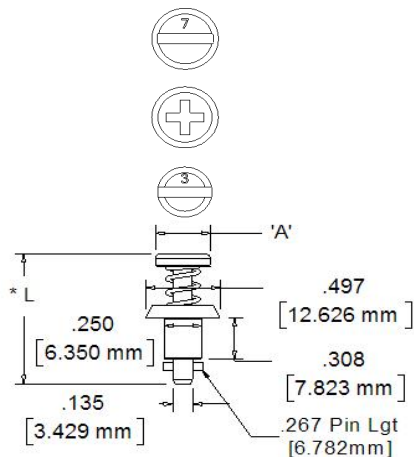
Designed for Restrictive (Minimum Overlap) Mounting Surfaces

Reduced Thru-Hole Diameter For Mounting Close to Edge

TSO-C148 Approved. Designed to Exceed NASM5591

Honeywell-Airbus Approvals - A380 Avionics

Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



ZG2500 Series Collared Slot

(A= .370)

SK2500 Series Standard Slot

(A= .302))

SK25S8 Series Phillips

(A= .302))



ZG2500



SK2500



SK25S8

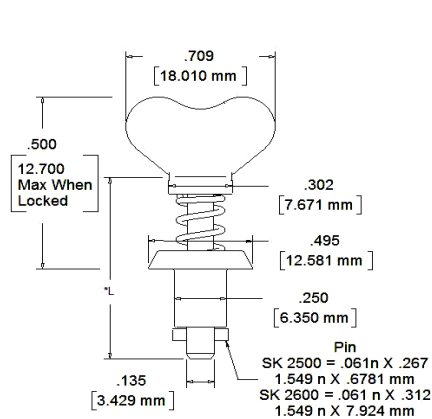
SK212-10 Series Fixed Depth Receptacle Combined Panel				Total Stud Length L		Protruding Head 2500 Series Stud		
Thickness Decimal		Thickness Millimeter				Stainless Standard Slot	Stainless Phillips	Skytanium Collared Slot
Min	Max	Min	Max	Decimal	Millimeter			
.030	.059	0.762	1.499	.760	19.304	SK2500-1S	SK25S8-1S	ZG2500-1
.060	.089	1.524	2.261	.790	20.066	SK2500-2S	SK25S8-2S	ZG2500-2
.090	.119	2.286	3.023	.820	20.828	SK2500-3S	SK25S8-3S	ZG2500-3
.120	.149	3.048	3.785	.850	21.590	SK2500-4S	SK25S8-4S	ZG2500-4
.150	.179	3.810	4.547	.880	22.352	SK2500-5S	SK25S8-5S	ZG2500-5
.180	.209	4.572	5.309	.910	23.114	SK2500-6S	SK25S8-6S	ZG2500-6
.210	.239	5.334	6.071	.940	23.876	SK2500-7S	SK25S8-7S	ZG2500-7
.240	.269	6.096	6.833	.970	24.638	SK2500-8S	SK25S8-8S	ZG2500-8
.270	.299	6.858	7.595	1.000	25.400	SK2500-9S	SK25S8-9S	ZG2500-9
.300	.329	7.620	8.357	1.030	26.162	SK2500-10S	SK25S8-10S	ZG2500-10
.330	.359	8.382	9.119	1.060	26.924	SK2500-11S	SK25S8-11S	ZG2500-11
.360	.389	9.144	9.881	1.090	27.686	SK2500-12S	SK25S8-12S	ZG2500-12
.390	.419	9.906	10.643	1.120	28.448	SK2500-13S	SK25S8-13S	ZG2500-13
.420	.449	10.668	11.405	1.150	29.210	SK2500-14S	SK25S8-14S	ZG2500-14
.450	.479	11.430	12.167	1.180	29.972	SK2500-15S	SK25S8-15S	ZG2500-15
.480	.509	12.192	12.929	1.210	30.734	SK2500-16S	SK25S8-16S	ZG2500-16

Note: See page 7 for plating options and part# suffix

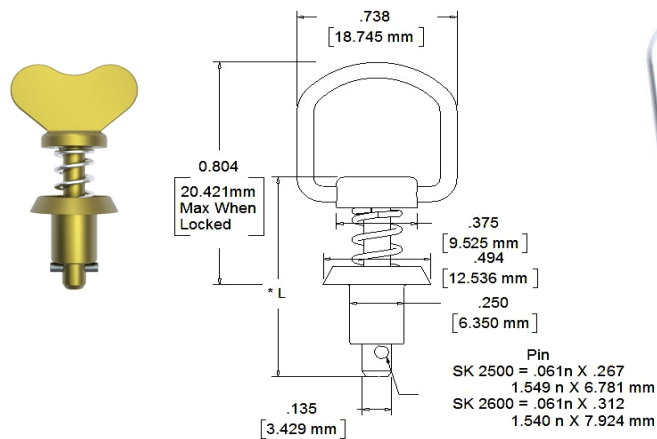
Skybolt CLoc® SK2500 Winged & Folding Ring Series Stainless & Skytanium®

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

Light Weight 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
ZG2500R Series Honeywell-Airbus Approvals - A380 Avionics
Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK2500W and ZG2500W



SK2500R and ZG2500R



SK212-10 Series				Winged Head				Folding Ring Head			
Fixed Depth				2500 Series Studs				2500 Series Studs			
Receptacle				Total				Total			
Combined Panel				Stud Length				Stud Length			
Thickness		Thickness		L		Stainless	Skytanium	L		Stainless	Skytanium
Decimal	Min	Millimeter	Max	Decimal	Millimeter			Decimal	Millimeter		
						Wing	Wing			Folding Ring	Folding Ring
.030	.059	0.762	1.499	.760	19.304	SK2500-1SW	ZG2500-1W	.825	20.955	SK2500R1S	ZG2500R1
.060	.089	1.524	2.261	.790	20.066	SK2500-2SW	ZG2500-2W	.855	21.717	SK2500R2S	ZG2500R2
.090	.119	2.286	3.023	.820	20.828	SK2500-3SW	ZG2500-3W	.885	22.479	SK2500R3S	ZG2500R3
.120	.149	3.048	3.785	.850	21.590	SK2500-4SW	ZG2500-4W	.915	23.241	SK2500R4S	ZG2500R4
.150	.179	3.810	4.547	.880	22.352	SK2500-5SW	ZG2500-5W	.945	24.003	SK2500R5S	ZG2500R5
.180	.209	4.572	5.309	.910	23.114	SK2500-6SW	ZG2500-6W	.975	24.765	SK2500R6S	ZG2500R6
.210	.239	5.334	6.071	.940	23.876	SK2500-7SW	ZG2500-7W	1.005	25.527	SK2500R7S	ZG2500R7
.240	.269	6.096	6.833	.970	24.638	SK2500-8SW	ZG2500-8W	1.035	26.289	SK2500R8S	ZG2500R8
.270	.299	6.858	7.595	1.000	25.400	SK2500-9SW	ZG2500-9W	1.065	27.051	SK2500R9S	ZG2500R9
.300	.329	7.620	8.357	1.030	26.162	SK2500-10SW	ZG2500-10W	1.095	27.813	SK2500R10S	ZG2500R10
.330	.359	8.382	9.119	1.060	26.924	SK2500-11SW	ZG2500-11W	1.125	28.575	SK2500R11S	ZG2500R11
.360	.389	9.144	9.881	1.090	27.686	SK2500-12SW	ZG2500-12W	1.155	29.337	SK2500R12S	ZG2500R12
.390	.419	9.906	10.643	1.120	28.448	SK2500-13SW	ZG2500-13W	1.185	30.099	SK2500R13S	ZG2500R13
.420	.449	10.668	11.405	1.150	29.210	SK2500-14SW	ZG2500-14W	1.215	30.861	SK2500R14S	ZG2500R14
.450	.479	11.430	12.167	1.180	29.972	SK2500-15SW	ZG2500-15W	1.245	31.623	SK2500R15S	ZG2500R15
.480	.509	12.192	12.929	1.210	30.734	SK2500-16SW	ZG2500-16W	1.275	32.385	SK2500R16S	ZG2500R16

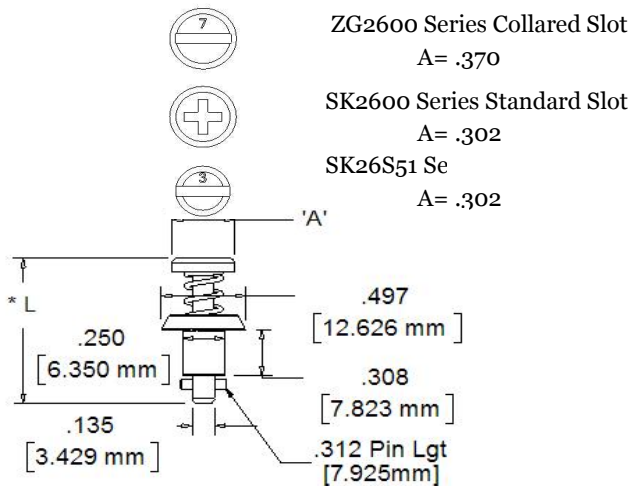
Note: See page 7 for plating options and part# suffix

Skybolt CLoc® SK2600 ZG2600 Protruding Head Series Stainless & Skytanium®

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

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK212 Series		SK211 Series		SK213 Series				Total Stud Length L Decimal Millimeter		Protruding Head 2600 Series Studs		
Fixed Depth		Fixed Depth		Adjustable Depth								
Receptacle		Receptacle		Receptacle								
Combined Panel		Outer Panel		Combined Panel								
Thickness		Thickness		Thickness								
Decimal		Millimeter		Decimal		Millimeter						
Min	Max	Min	Max	Min	Max	Min	Max	Decimal	Millimeter	Stainless Standard Slot	Stainless Phillips	Skytanium Collared Slot
.030	.059	0.762	1.499	.010	.390	0.254	9.906	.760	19.304	SK2600-1S	SK26S51-1	ZG2600-1
.060	.089	1.524	2.261	.040	.400	1.016	10.160	.790	20.066	SK2600-2S	SK26S51-2	ZG2600-2
.090	.119	2.286	3.023	.070	.430	1.778	10.922	.820	20.828	SK2600-3S	SK26S51-3	ZG2600-3
.120	.149	3.048	3.785	.100	.460	2.540	11.684	.850	21.590	SK2600-4S	SK26S51-4	ZG2600-4
.150	.179	3.810	4.547	.130	.490	3.302	12.446	.880	22.352	SK2600-5S	SK26S51-5	ZG2600-5
.180	.209	4.572	5.309	.160	.520	4.064	13.208	.910	23.114	SK2600-6S	SK26S51-6	ZG2600-6
.210	.239	5.334	6.071	.190	.550	4.826	13.970	.940	23.876	SK2600-7S	SK26S51-7	ZG2600-7
.240	.269	6.096	6.833	.220	.580	5.588	14.732	.970	24.638	SK2600-8S	SK26S51-8	ZG2600-8
.270	.299	6.858	7.595	.250	.610	6.350	15.494	1.000	25.400	SK2600-9S	SK26S51-9	ZG2600-9
.300	.329	7.620	8.357	.280	.640	7.112	16.256	1.030	26.162	SK2600-10S	SK26S51-10	ZG2600-10
.330	.359	8.382	9.119	.310	.670	7.874	17.018	1.060	26.924	SK2600-11S	SK26S51-11	ZG2600-11
.360	.389	9.144	9.881	.340	.700	8.636	17.780	1.090	27.686	SK2600-12S	SK26S51-12	ZG2600-12
.390	.419	9.906	10.643	.370	.730	9.398	18.542	1.120	28.448	SK2600-13S	SK26S51-13	ZG2600-13
.420	.449	10.668	11.405	.400	.760	10.160	19.304	1.150	29.210	SK2600-14S	SK26S51-14	ZG2600-14
.450	.479	11.430	12.167	.430	.790	10.922	20.066	1.180	29.972	SK2600-15S	SK26S51-15	ZG2600-15
.480	.509	12.192	12.929	.460	.820	11.684	20.828	1.210	30.734	SK2600-16S	SK26S51-16	ZG2600-16

Note: See page 7 for plating options and part# suffix

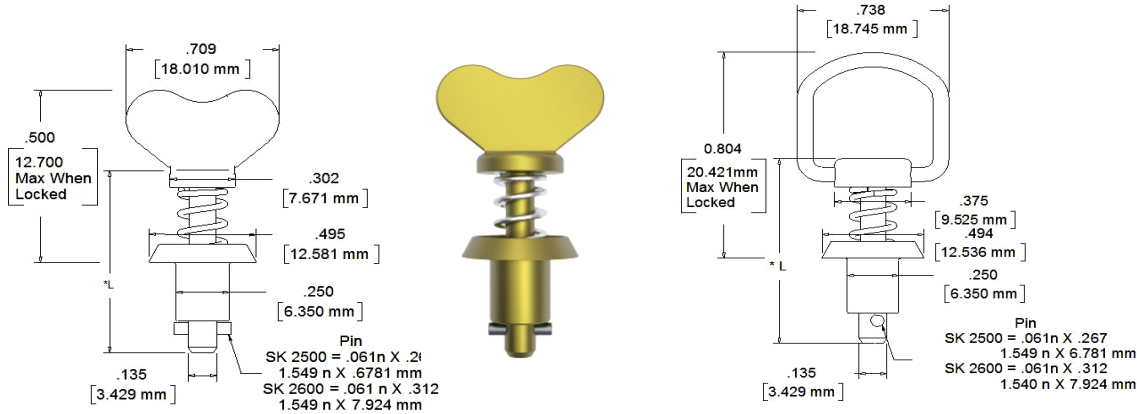
Skybolt CLoc® SK2600 Winged & Folding Ring Series

Stainless & Skytanium®

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

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK2600W and ZG2600W

SK2600R and ZG2600R

SK212 Series		SK211 Series		SK213-5 Series				Winged 2600 Series Studs				Folding Ring Head 2600 Series Studs					
Fixed Depth		Fixed Depth		Adjustable Depth													
Receptacle		Receptacle		Receptacle													
Combined Panel		Outer Panel		Combined Panel													
Thickness		Thickness		Thickness													
Decimal		Millimeter		Decimal		Millimeter		Total Stud Length		Stainless		Skytanium		Total Stud Length		Stainless	
Min	Max	Min	Max	Min	Max	Min	Max	L		Wing				L		Folding Ring	Folding Ring
								Decimal	Millimeter					Decimal	Millimeter		
.030	.059	0.762	1.499	.010	.390	0.254	9.906	.760	19.304	SK2600-1SW	ZG2600-1W	.825	20.955	ZG2600R1		SK2600R1S	
.060	.089	1.524	2.261	.040	.400	1.016	10.160	.790	20.066	SK2600-2SW	ZG2600-2W	.855	21.717	ZG2600R2		SK2600R2S	
.090	.119	2.286	3.023	.070	.430	1.778	10.922	.820	20.828	SK2600-3SW	ZG2600-3W	.885	22.479	ZG2600R3		SK2600R3S	
.120	.149	3.048	3.785	.100	.460	2.540	11.684	.850	21.590	SK2600-4SW	ZG2600-4W	.915	23.241	ZG2600R4		SK2600R4S	
.150	.179	3.810	4.547	.130	.490	3.302	12.446	.880	22.352	SK2600-5SW	ZG2600-5W	.945	24.003	ZG2600R5		SK2600R5S	
.180	.209	4.572	5.309	.160	.520	4.064	13.208	.910	23.114	SK2600-6SW	ZG2600-6W	.975	24.765	ZG2600R6		SK2600R6S	
.210	.239	5.334	6.071	.190	.550	4.826	13.970	.940	23.876	SK2600-7SW	ZG2600-7W	1.005	25.527	ZG2600R7		SK2600R7S	
.240	.269	6.096	6.833	.220	.580	5.588	14.732	.970	24.638	SK2600-8SW	ZG2600-8W	1.035	26.289	ZG2600R8		SK2600R8S	
.270	.299	6.858	7.595	.250	.610	6.350	15.494	1.000	25.400	SK2600-9SW	ZG2600-9W	1.065	2.705	ZG2600R9		SK2600R9S	
.300	.329	7.620	8.357	.280	.640	7.112	16.256	1.030	26.162	SK2600-10SW	ZG2600-10W	1.095	27.813	ZG2600R10		SK2600R10S	
.330	.359	8.382	9.119	.310	.670	7.874	17.018	1.060	26.924	SK2600-11SW	ZG2600-11W	1.125	28.575	ZG2600R11		SK2600R11S	
.360	.389	9.144	9.881	.340	.700	8.636	17.780	1.090	27.686	SK2600-12SW	ZG2600-12W	1.155	29.337	ZG2600R12		SK2600R12S	
.390	.419	9.906	10.643	.370	.730	9.398	18.542	1.120	28.448	SK2600-13SW	ZG2600-13W	1.185	30.099	ZG2600R13		SK2600R13S	
.420	.449	10.668	11.405	.400	.760	10.160	19.304	1.150	29.210	SK2600-14SW	ZG2600-14W	1.215	30.861	ZG2600R14		SK2600R14S	
.450	.479	11.430	12.167	.430	.790	10.922	20.066	1.180	29.972	SK2600-15SW	ZG2600-15W	1.245	31.623	ZG2600R15		SK2600R15S	
.480	.509	12.192	12.929	.460	.820	11.684	20.828	1.210	30.734	SK2600-16SW	ZG2600-16W	1.275	32.385	ZG2600R16		SK2600R16S	

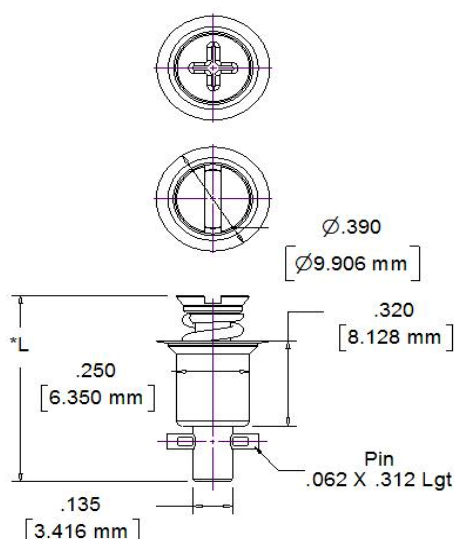
Note: See page 7 for plating options and part# suffix

Skybolt CLoc® SK2700 Flush Head Series **Stainless & Skytanium®**

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

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK27S3S



SK2700S

SK212 Series		SK211 Series		SK213 Series				Total Stud Length L Decimal Millimeter		Flush Head	
Fixed Depth		Fixed Depth		Adjustable Depth						2700 Series Stud	
Receptacle		Receptacle		Receptacle						Stainless Stainless	
Combined Panel		Outer Panel		Combined Panel						Collared Slot Phillips	
Thickness		Thickness		Thickness							
Decimal		Millimeter		Decimal		Millimeter					
Min	Max	Min	Max	Min	Max	Min	Max				
.030	.059	0.762	1.499	.010	.390	0.254	9.906	.610	15.494	SK2700-1S	SK27S3-1S
.060	.089	1.524	2.261	.040	.400	1.016	10.160	.640	16.256	SK2700-2S	SK27S3-2S
.090	.119	2.286	3.023	.070	.430	1.778	10.922	.670	17.018	SK2700-3S	SK27S3-3S
.120	.149	3.048	3.785	.100	.460	2.540	11.684	.700	17.780	SK2700-4S	SK27S3-4S
.150	.179	3.810	4.547	.130	.490	3.302	12.446	.730	18.542	SK2700-5S	SK27S3-5S
.180	.209	4.572	5.309	.160	.520	4.064	13.208	.760	19.304	SK2700-6S	SK27S3-6S
.210	.239	5.334	6.071	.190	.550	4.826	13.970	.790	20.066	SK2700-7S	SK27S3-7S
.240	.269	6.096	6.833	.220	.580	5.588	14.732	.820	20.828	SK2700-8S	SK27S3-8S
.270	.299	6.858	7.595	.250	.610	6.350	15.494	.850	21.590	SK2700-9S	SK27S3-9S
.300	.329	7.620	8.357	.280	.640	7.112	16.256	.880	22.352	SK2700-10S	SK27S3-10S
.330	.359	8.382	9.119	.310	.670	7.874	17.018	.910	23.114	SK2700-11S	SK27S3-11S
.360	.389	9.144	9.881	.340	.700	8.636	17.780	.940	23.876	SK2700-12S	SK27S3-12S
.390	.419	9.906	10.643	.370	.730	9.398	18.542	.970	24.638	SK2700-13S	SK27S3-13S
.420	.449	10.668	11.405	.400	.760	10.160	19.304	1.000	25.400	SK2700-14S	SK27S3-14S
.450	.479	11.430	12.167	.430	.790	10.922	20.066	1.030	26.162	SK2700-15S	SK27S3-15S
.480	.509	12.192	12.929	.460	.820	11.684	20.828	1.060	26.924	SK2700-16S	SK27S3-16S

Note: See page 7 for plating options and part# suffix

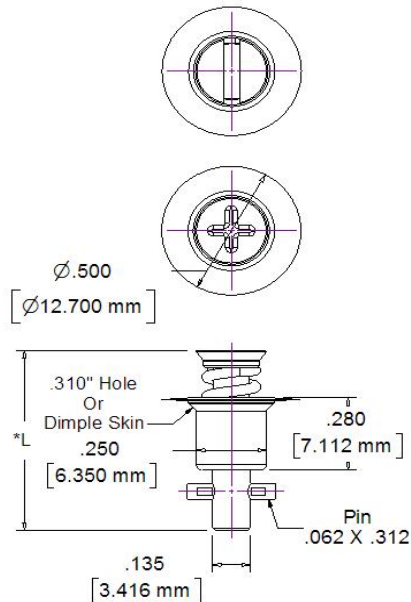
Skybolt CLoc® SK2800 Flush Head Series

Stainless & Skytanium®

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

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 200 LBS Working - 300 Lbs Plus Ultimate



SK2800S



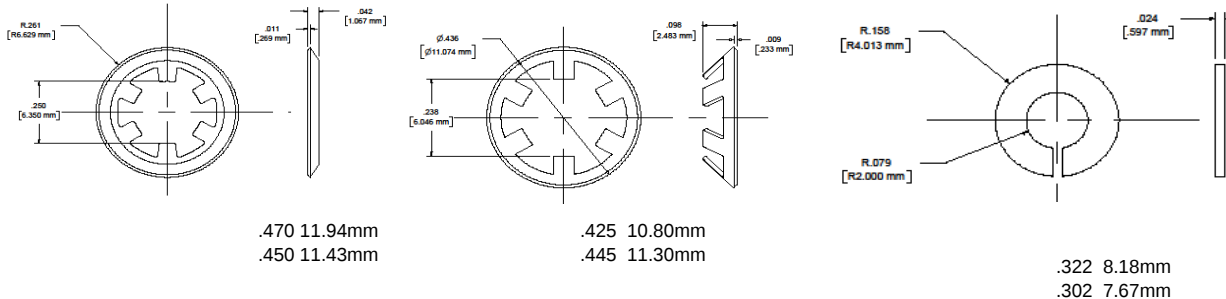
SK28S3 and ZG28S3

SK212 Series		SK211 Series		SK213 Series				Total Stud Length L		Flush Head 2800 Series Stud		
Fixed Depth		Fixed Depth		Adjustable Depth						Stainless Standard Slot	Stainless Phillips	Skytanium Phillips
Receptacle		Receptacle		Receptacle								
Combined Panel		Outer Panel		Combined Panel								
Thickness		Thickness		Thickness								
Decimal		Millimeter		Decimal		Millimeter						
Min	Max	Min	Max	Min	Max	Min	Max	Decimal	Millimeter			
.030	.059	0.762	1.499	.010	.390	0.254	9.906	.610	15.494	SK2800-1S	SK28S3-1S	ZG28S3-1
.060	.089	1.524	2.261	.040	.400	1.016	10.160	.640	16.256	SK2800-2S	SK28S3-2S	ZG28S3-2
.090	.119	2.286	3.023	.070	.430	1.778	10.922	.670	17.018	SK2800-3S	SK28S3-3S	ZG28S3-3
.120	.149	3.048	3.785	.100	.460	2.540	11.684	.700	17.780	SK2800-4S	SK28S3-4S	ZG28S3-4
.150	.179	3.810	4.547	.130	.490	3.302	12.446	.730	18.542	SK2800-5S	SK28S3-5S	ZG28S3-5
.180	.209	4.572	5.309	.160	.520	4.064	13.208	.760	19.304	SK2800-6S	SK28S3-6S	ZG28S3-6
.210	.239	5.334	6.071	.190	.550	4.826	13.970	.790	20.066	SK2800-7S	SK28S3-7S	ZG28S3-7
.240	.269	6.096	6.833	.220	.580	5.588	14.732	.820	20.828	SK2800-8S	SK28S3-8S	ZG28S3-8
.270	.299	6.858	7.595	.250	.610	6.350	15.494	.850	21.590	SK2800-9S	SK28S3-9S	ZG28S3-9
.300	.329	7.620	8.357	.280	.640	7.112	16.256	.880	22.352	SK2800-10S	SK28S3-10S	ZG28S3-10
.330	.359	8.382	9.119	.310	.670	7.874	17.018	.910	23.114	SK2800-11S	SK28S3-11S	ZG28S3-11
.360	.389	9.144	9.881	.340	.700	8.636	17.780	.940	23.876	SK2800-12S	SK28S3-12S	ZG28S3-12
.390	.419	9.906	10.643	.370	.730	9.398	18.542	.970	24.638	SK2800-13S	SK28S3-13S	ZG28S3-13
.420	.449	10.668	11.405	.400	.760	10.160	19.304	1.000	25.400	SK2800-14S	SK28S3-14S	ZG28S3-14
.450	.479	11.430	12.167	.430	.790	10.922	20.066	1.030	26.162	SK2800-15S	SK28S3-15S	ZG28S3-15
.480	.509	12.192	12.929	.460	.820	11.684	20.828	1.060	26.924	SK2800-16S	SK28S3-16S	ZG28S3-16

Note: See page 7 for plating options and part# suffix

Skybolt CLoc® 2000 Series Retainers

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



SK2600-LWS Solid Retaining Ring General Purpose

This retainer is used in 99% of all applications. Installed with SK-T26 Tool.

SK27S5-1 Solid Retaining Ring for Dimpled Panels

This retainer is designed for SK2700 or SK2800 Studs installed in a thin dimpled panel. Installed with SK-T26 Tool.

SK2600-SW Split Ring Retainer

This retainer is designed for a curved panel installation that require the studs to retract when unlocked. They will not work 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 a .257 hole.

Install with SK-T26 Tool. Place retainer flat on end of cup and push retainer until secure with the panel. Note: If the retainer bends, simply reset the retainer and try again. The tool will secure the retainer properly faced with the panel.

To install SW Retainer, simply bend open at the split with a needle nosed pliers; Twist ring around the cross-pin; Re-bend the spit end closed.

MIL-A-8625: Anodic Coatings for Aluminum and Aluminum Alloys

MIL-A-8625 is the military specification titled *Anodic Coatings for Aluminum and Aluminum Alloys*. This specification covers the requirements for electrolytically formed anodic coatings on aluminum and aluminum alloys for non-architectural applications*. It gives the details, methods, and procedures for these various coatings.

Whereas MIL-STD-171 only gives the general description of available finishes and is a guide to the selection of the correct type of finish.

MIL-A-8625 is approved for use by all Departments and Agencies of the Department of Defense.

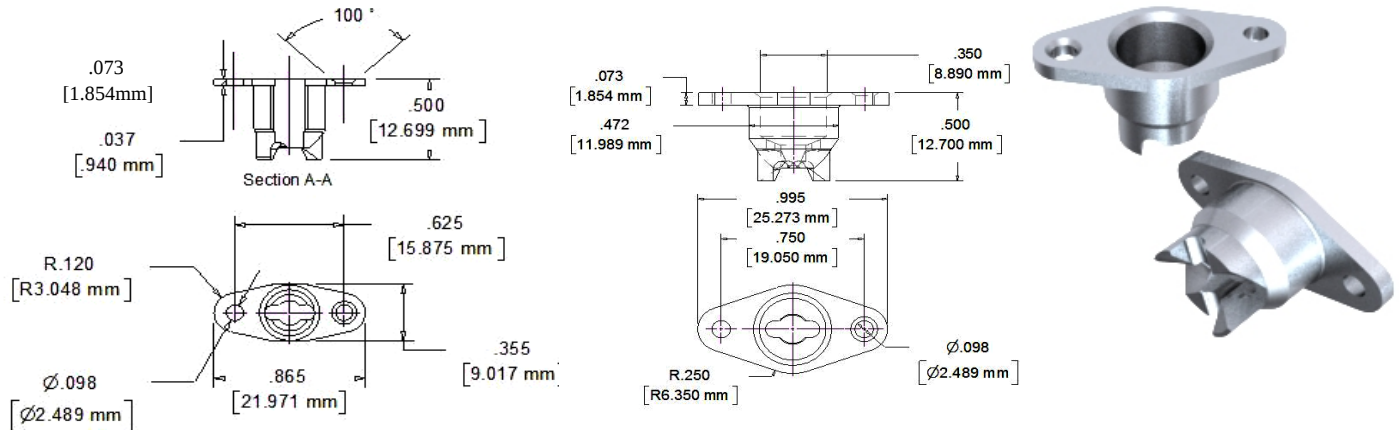
The anodic coating types and classes that *DURAELECTRA* offers are as follows:

- **MIL-A-8625, Type II, Class 1** – Sulfuric acid anodizing, conventional coatings produced from a sulfuric acid bath, Non-dyed
- **MIL-A-8625, Type II, Class 2** – Sulfuric acid anodizing, conventional coatings produced from a sulfuric acid bath, Dyed
- **MIL-A-8625, Type III, Class 1** – Hard Anodic Coatings, Non-dyed
- **MIL-A-8625, Type III, Class 2** – Hard Anodic Coatings, Dyed

Skybolt CLoc® 2000 Series Rivet Receptacles

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

Standard SK212 Fixed Depth Receptacles



SK212-10

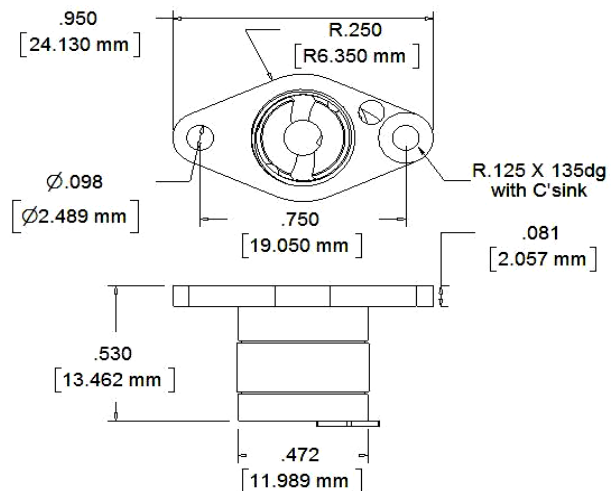
SK212-12

	Material	Finish	Rivet Size	Weight LB/Grams		Material	Finish	Rivet Size	Weight
SK212-10	Steel	Zinc	3/32	.0100/4.5	SK212-12	Steel	Zinc	3/32	.0105/4.8
SK212-10A	Alum6061	None	3/32	.0030/1.4	SK212-12A	Alum6061	None	3/32	.0040/1.8
SK212-10AA	Alum6061	Anodized	3/32	.0030/1.4	SK212-12AA	Alum6061	Anodized	3/32	.0040/1.8
SK212-10AB	Alum6061	Anodized	3/32	.0030/1.4	SK212-12AB	Alum6061	Anodized	3/32	.0040/1.8
SK212-10S	Stain303	QQ-P-35	3/32	.0100/4.5	SK212-12A8	Alum6061	None	1/8	.0040/1.8
SK212E12A	Alum6061	None	Crimp-Bond	.0030/1.4	SK212-12A8A	Alum6061	Anodized	1/8	.0040/1.8
SK212E12AA	Alum6061	None	Crimp-Bond	.0030/1.4	SK212-12A8B	Alum6061	Anodized	1/8	.0040/1.8
SK212E12AB	Alum6061	None	Crimp-Bond	.0030/1.4	SK212-12S	Stain303	QQ-P-35	3/32	.0105/4.8
					SK212E12A	Alum6061	None	Crimp-Bond	.0040/1.8
					SK212E12AA	Alum6061	Anodized	Crimp-Bond	.0040/1.8
					SK212E12AB	Alum6061	Anodized	Crimp-Bond	.0040/1.8

SK213 Adjustable Receptacles



SK213-2D Shown



Standard Adjustable Depth Receptacles

	Material	Finish	Rivet Size	Weight
SK213-2	Skytanium	None	3/32	.0070/3.2
SK213-2D	Skytanium	None	3/32 Dim	.0070/3.2
SK213-2A	Skytanium	Anodized	3/32	.0070/3.2
SK213-2B	Skytanium	Anodized	3/32	.0070/3.2
SK213-26	Skytanium	None	3/32	.0070/3.2
SK213-28	Skytanium	None	1/8	.0070/3.2
SK213-5	Skytanium	None	3/32	.0070/3.2
SK213-58	Skytanium	None	1/8	.0070/3.2
SK213E3	Skytanium	None	Crimp-Bond	.0070/3.2
SK213E4	Skytanium	None	Crimp-Bond	.0070/3.2
SK213E5	Skytanium	None	Crimp-Bond	.0070/3.2

SK213-2 (3/32 Rivet holes) shown
SK213-28 (1/8 Rivet Holes)

Skybolt CLoc® 2000 Series Threaded Receptacles

SK210-2S

Blind Receptacle - Countersunk Flange

Excellent for wood, plastic, or composite structures.
Non-Adjustable Depth - Recommend Phillips Studs
Self locking when tapped as suggested or use adhesive

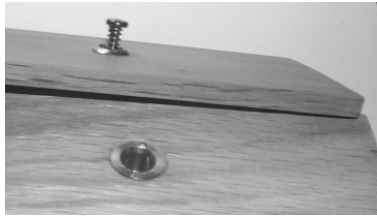


Protruding Stud	Outer Panel Thickness(1)	Flush Stud	Outer Panel Thickness(1)
SK26S51-3	.010-.060	SK28S3-4S	.010-.030
SK26S51-4	.060-.090	SK28S3-5S	.030-.060
SK26S51-5	.090-.120	SK28S3-6S	.060-.090
SK26S51-6	.120-.150	SK28S3-7S	.090-.120
SK26S51-7	.150-.180	SK28S3-8S	.120-.150
SK26S51-8	.180-.210	SK28S3-9S	.150-.180
SK26S51-9	.210-.240	SK28S3-10S	.180-.210
SK26S51-10	.240-.270	SK28S3-11S	.210-.240
SK26S51-11	.270-.300		

Outer Panel Hole (To .065)	Drill .257
Outer Panel Hole (Greater than .065)	Drill .281
Support Hole	Drill 13/32 (1)
Tap	1/2-13

Receptacle Length .600

Note: Total length with stud engaged = .700

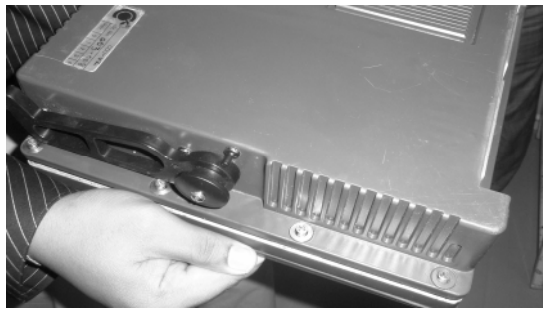
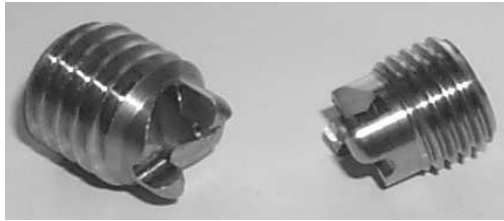


SK210-30S

SK210-31S

Blind Receptacle - Adjustable Depth

Excellent for wood, plastic, or composite structures.
Adjustable Depth
Self locking when tapped as suggested or use adhesive



Protruding Stud	Outer Panel Thickness(2)	Flush Stud	Outer Panel Thickness(2)
SK26S51-1	.100-.130	SK28S3-1S	.040-.070
SK26S51-2	.130-.160	SK28S3-2S	.070-.100
SK26S51-3	.160-.190	SK28S3-3S	.100-.130
SK26S51-4	.190-.220	SK28S3-4S	.130-.160
SK26S51-5	.220-.250	SK28S3-5S	.160-.190
SK26S51-6	.250-.280	SK28S3-6S	.190-.220
SK26S51-7	.280-.310	SK28S3-7S	.220-.250
SK26S51-8	.310-.340	SK28S3-8S	.250-.280
SK26S51-9	.340-.370	SK28S3-9S	.280-.310
SK26S51-10	.370-.400	SK28S3-10S	.310-.340
SK26S51-11	.400-.430	SK28S3-11S	.340-.370

SK210-30S (For Wood)

SK210-31S (For Metals)

Outer Panel Hole (To .065)	Drill .257	Drill .257
Outer Panel Hole (Greater than .065)	Drill .281	Drill .281
Support Hole	Drill 13/32 (1)	Drill 13/32
Tap	1/2-13	7/16-20

Receptacle Length .476 Note: Total length with stud engaged = .575

Note (1) Undersized drill favorable for thread locking in wood

Note (2): Assumes SK210 is set flush with support panel surface. All values decrease for the given stud if SK210 receptacle is set below inner panel surface. All values increase if receptacle is protruding.

Skybolt CLoc® 2000 Series Threaded Receptacles

SK211-2S Nut Retained Receptacle - Flange - 303 Stainless



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

Outer Panel Hole (To .065)	Drill .257
Outer Panel Hole (Greater than .065)	Drill .281
Support Hole	Drill 1/2
Min/Max Recommended Support Panel Thickness 0 to 1/4 Inch	

Protruding Stud	Outer Panel Thickness	Flush Stud	Outer Panel Thickness
SK26S51-2	.010-.030		
SK26S51-3	.030-.060		
SK26S51-4	.060-.090	SK28S3-4S	.010-.030
SK26S51-5	.090-.120	SK28S3-5S	.030-.060
SK26S51-6	.120-.150	SK28S3-6S	.060-.090
SK26S51-7	.150-.180	SK28S3-7S	.090-.120
SK26S51-8	.180-.210	SK28S3-8S	.120-.150
SK26S51-9	.210-.240	SK28S3-9S	.150-.180
SK26S51-10	.240-.270	SK28S3-10S	.180-.210
SK26S51-11	.270-.300	SK28S3-11S	.210-.240

SK211-32A Nut Retained Receptacle - Flange - Aluminum



Excellent for any Non-Blind Mounting Application
Non-Adjustable Depth
Use thread locking compound to secure nut
Developed for NASCAR and Racing Applications

Outer Panel Hole (To .065)	Drill .257
Outer Panel Hole (Greater than .065)	Drill .281
Support Hole	Drill 1/2
Min/Max Recommended Support Panel Thickness 0 to 1/4 Inch	

Protruding Stud	Outer Panel Thickness	Flush Stud	Outer Panel Thickness
SK26S51-2	.010-.030		
SK26S51-3	.030-.060		
SK26S51-4	.060-.090	SK28S3-4S	.010-.030
SK26S51-5	.090-.120	SK28S3-5S	.030-.060
SK26S51-6	.120-.150	SK28S3-6S	.060-.090
SK26S51-7	.150-.180	SK28S3-7S	.090-.120
SK26S51-8	.180-.210	SK28S3-8S	.120-.150
SK26S51-9	.210-.240	SK28S3-9S	.150-.180
SK26S51-10	.240-.270	SK28S3-10S	.180-.210
SK26S51-11	.270-.300	SK28S3-11S	.210-.240

Skybolt CLoc® SK4000, ZG4000, SK5000 Series

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

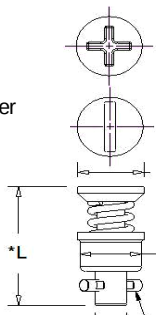
700 LB Working Strength, 1050 LB Ultimate Tensile Strength (Steel)

600 LB Working Strength, 900 LB Ultimate Tensile Strength (ZG4000) TSO-C148

STUDS

3/8" Head Diameter - All Studs

Stud Dash Number
Stamped in Head

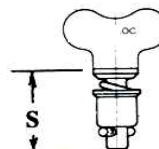


40S5 Steel
SK40S5-()S Stainless

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

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

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



Use 4P3 Pliers to insert stud through grommet

GROMMETS

Panel (P) Drill to 15/32"

Drill to 1/2"

See Chart 1 for Specs

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-O18S Stainless

SK-O316S Stainless

SK-O14S Stainless

-or-

Panel (P) Drill to 15/32" (140deg Countersunk))

See Chart 1 for Specs

Standard Flush

Grommets

SK-G Steel

SK-GS Stainless

SK-H Steel

SK-HS Stainless

-or-

Panel (P) Drill to 15/32"

See Chart 1 for Specs

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

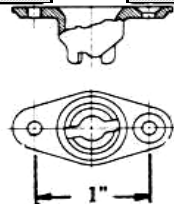
(for Oversize Holes)

RECEPTACLES

Drill center hole to 11/16"

Use T26 Tool to install Retainers

Support
Panel (F)



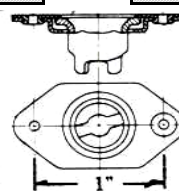
Rigid Receptacle

214-16 Steel

214-16D Steel Dimpled

SK215-4 Alum Adjust

1/8" Rivets



Height = .5625"

Floating Receptacle

244-16 Steel

244-16D Steel Dimpled

SK244-16A Alum Fixed

SK245-5 Alum Adjustable

Skybolt CLoc® 4000 Series Common Sets

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



SK40S5S



ZG4002

Stainless Series

SK40S5S-SET1	\$10.80	Total Grip Range
SK40S5-2S Phillips Head		.010 - .310
SK-OS Panel Grommet (.094 max thickness)		
SK-R4G Stud/Grommet Retainer		
SK245-5 Adjustable Receptacle 1/8" Rivets		
Use for any applications with inner flange mounting width of 1-1/4" or greater		

Skytanium® Series

ZG4002-SET1	\$11.16	Total Grip Range
ZG4002-2 Collared Slot		.010 - .310
ZG-094LA Panel Grommet (.094 max thickness)		
SK-R4G Stud/Grommet Retainer		
SK245-5 Adjustable Receptacle 1/8" Rivets		
Use for any applications with inner flange mounting width of 1-1/4" or greater		

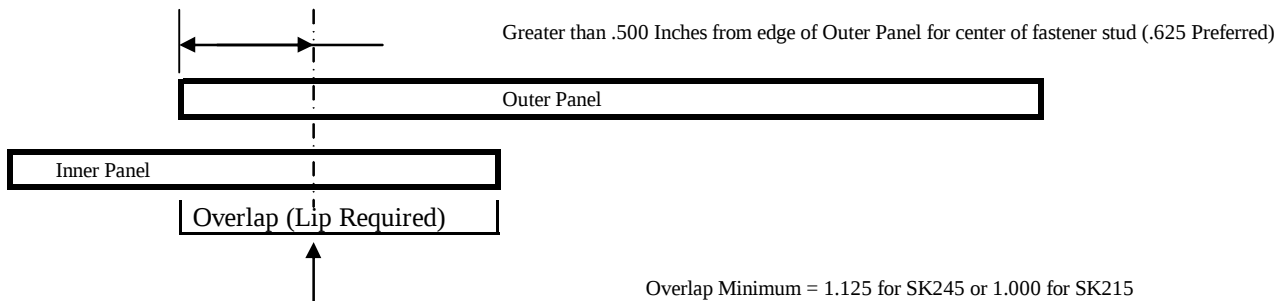
Note (1)

Note (2)

Note 1 - OS Grommet Restrictions - Minimum Combined Total Thickness must be greater than .116. Max Outer Panel Thickness = .094

Note 2 - SK245-5 Floating Receptacles require inner panel overlap of 1.125".

What does Overlap Mean?



Installation Tools Required -

SK-SP5	Receptacle Adjustment Tool and Retainer Installation Tool	\$29.00
Template-215	Template to drill rivet holes with #30 Drill	\$1.25
Template-245	Template to expand center hole with Unibit-3 Stepdrill	\$1.25

Skybolt CLoc® SK4000, ZG4000, SK5000 Series

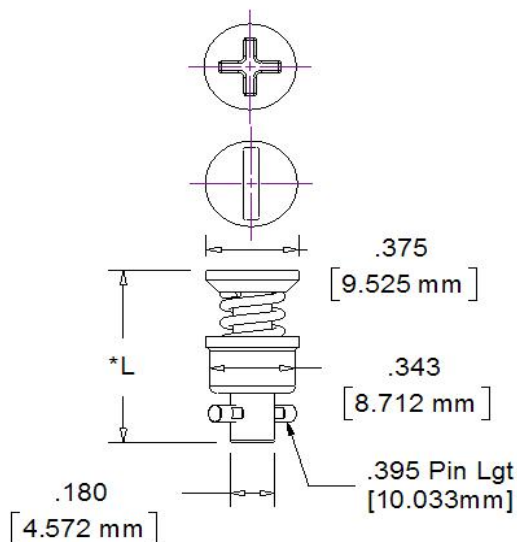
Stainless & Skytanium®

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

Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Plus Ultimate



**SK40S5 Phillips Head
SK50S5 Phillips Head 700°F**



**SK4002 Collared Slot
SK5002 Collared Slot 700°F**



ZG4002 Collared Slot

Stud Replacement (For New Design, See next page for Stud Dash#)

Measure 'S' Length .030 Tolerance					Stainless	Stainless	Skytanium®	Stainless	Stainless
Stud	SK4002		SK40S5		Collared	Phillips	Collared	Collared	Phillips
Dash#	inches	mm	inches	mm	Slot	Head	Slot	Slot 700°F	Head 700°F
-0	.630	16.00	.620	15.75	SK4002-0S	SK40S5-0S	ZG4002-0	SK5002-0S	SK50S5-0S
-1	.660	16.76	.650	16.51	SK4002-1S	SK40S5-1S	ZG4002-1	SK5002-1S	SK50S5-1S
-2	.690	17.53	.680	17.27	SK4002-2S	SK40S5-2S	ZG4002-2	SK5002-2S	SK50S5-2S
-3	.720	18.29	.710	18.03	SK4002-3S	SK40S5-3S	ZG4002-3	SK5002-3S	SK50S5-3S
-4	.750	19.05	.740	18.80	SK4002-4S	SK40S5-4S	ZG4002-4	SK5002-4S	SK50S5-4S
-5	.780	19.81	.770	19.56	SK4002-5S	SK40S5-5S	ZG4002-5	SK5002-5S	SK50S5-5S
-6	.810	20.57	.800	20.32	SK4002-6S	SK40S5-6S	ZG4002-6	SK5002-6S	SK50S5-6S
-7	.840	21.34	.830	21.08	SK4002-7S	SK40S5-7S	ZG4002-7	SK5002-7S	SK50S5-7S
-8	.870	22.10	.860	21.84	SK4002-8S	SK40S5-8S	ZG4002-8	SK5002-8S	SK50S5-8S
-9	.900	22.86	.890	22.61	SK4002-9S	SK40S5-9S	ZG4002-9	SK5002-9S	SK50S5-9S
-10	.930	23.62	.920	23.37	SK4002-10S	SK40S5-10S	ZG4002-10	SK5002-10S	SK50S5-10S
-11	.960	24.38	.950	24.13	SK4002-11S	SK40S5-11S	ZG4002-11	SK5002-11S	SK50S5-11S
-12	.990	25.15	.980	24.89	SK4002-12S	SK40S5-12S	ZG4002-12	SK5002-12S	SK50S5-12S
-13	1.020	25.91	1.010	25.65	SK4002-13S	SK40S5-13S	ZG4002-13	SK5002-13S	SK50S5-13S
-14	1.050	26.67	1.040	26.42	SK4002-14S	SK40S5-14S	ZG4002-14	SK5002-14S	SK50S5-14S
-15	1.080	27.43	1.070	27.18	SK4002-15S	SK40S5-15S	ZG4002-15	SK5002-15S	SK50S5-15S
-16	1.110	28.19	1.100	27.94	SK4002-16S	SK40S5-16S	ZG4002-16	SK5002-16S	SK50S5-16S
-17	1.140	28.96	1.130	28.70	SK4002-17S	SK40S5-17S	ZG4002-17	SK5002-17S	SK50S5-17S
-18	1.170	29.72	1.160	29.464	SK4002-18S	SK40S5-18S	ZG4002-18	SK5002-18S	SK50S5-18S
-19	1.200	30.48	1.190	30.226	SK4002-19S	SK40S5-19S	ZG4002-19	SK5002-19S	SK50S5-19S
-20	1.230	31.24	1.220	30.988	SK4002-20S	SK40S5-20S	ZG4002-20	SK5002-20S	SK50S5-20S
-21	1.260	32.00	1.250	31.75	SK4002-21S	SK40S5-21S	ZG4002-21	SK5002-21S	SK50S5-21S
-22	1.290	32.77	1.280	32.512	SK4002-22S	SK40S5-22S	ZG4002-22	SK5002-22S	SK50S5-22S
-23	1.320	33.53	1.310	33.274	SK4002-23S	SK40S5-23S	ZG4002-23	SK5002-23S	SK50S5-23S
-24	1.330	33.78	1.340	34.036	SK4002-24S	SK40S5-24S	ZG4002-24	SK5002-24S	SK50S5-24S

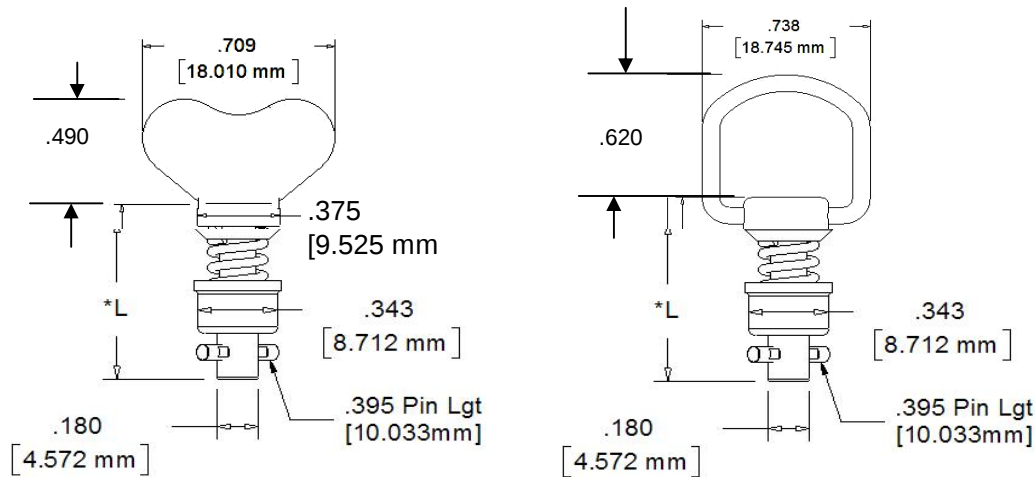
Skybolt CLoc® SK4000 and SK5000 W & R Series, ZG4000 W & R Series Stainless and Skytanium®

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

Industry Standard Heavy Duty 1/4-Turn Panel Fastener Series

TSO-C148 Approved. Designed to Exceed NASM5591

Tensile/Shear Loads of 700 LBS Working - 1050 Lbs Plus Ultimate



Stud Replacement (For New Design, See next page for Stud Dash#)

Measure 'S' Length .030 Tolerance					Stainless	Stainless	Skytanium®	Stainless	Stainless	Skytanium®
Stud	SK4002, SK5002		SK40S5, SK50S5		4002 Series	5002 Series	4002 Series	4002 Series	5002 Series	4002 Series
Dash#	inches	mm	inches	mm	Winged	Winged	Winged	Folding Ring	Folding Ring	Folding Ring
-0	.630	16.00	.620	15.75	SK4002-0SW	SK5002-0SW	ZG4002-0W	SK4002-0SR	SK5002-0SR	ZG4002-0R
-1	.660	16.76	.650	16.51	SK4002-1SW	SK5002-1SW	ZG4002-1W	SK4002-1SR	SK5002-1SR	ZG4002-1R
-2	.690	17.53	.680	17.27	SK4002-2SW	SK5002-2SW	ZG4002-2W	SK4002-2SR	SK5002-2SR	ZG4002-2R
-3	.720	18.29	.710	18.03	SK4002-3SW	SK5002-3SW	ZG4002-3W	SK4002-3SR	SK5002-3SR	ZG4002-3R
-4	.750	19.05	.740	18.80	SK4002-4SW	SK5002-4SW	ZG4002-4W	SK4002-4SR	SK5002-4SR	ZG4002-4R
-5	.780	19.81	.770	19.56	SK4002-5SW	SK5002-5SW	ZG4002-5W	SK4002-5SR	SK5002-5SR	ZG4002-5R
-6	.810	20.57	.800	20.32	SK4002-6SW	SK5002-6SW	ZG4002-6W	SK4002-6SR	SK5002-6SR	ZG4002-6R
-7	.840	21.34	.830	21.08	SK4002-7SW	SK5002-7SW	ZG4002-7W	SK4002-7SR	SK5002-7SR	ZG4002-7R
-8	.870	22.10	.860	21.84	SK4002-8SW	SK5002-8SW	ZG4002-8W	SK4002-8SR	SK5002-8SR	ZG4002-8R
-9	.900	22.86	.890	22.61	SK4002-9SW	SK5002-9SW	ZG4002-9W	SK4002-9SR	SK5002-9SR	ZG4002-9R
-10	.930	23.62	.920	23.37	SK4002-10SW	SK5002-10SW	ZG4002-10W	SK4002-10SR	SK5002-10SR	ZG4002-10R
-11	.960	24.38	.950	24.13	SK4002-11SW	SK5002-11SW	ZG4002-11W	SK4002-11SR	SK5002-11SR	ZG4002-11R
-12	.990	25.15	.980	24.89	SK4002-12SW	SK5002-12SW	ZG4002-12W	SK4002-12SR	SK5002-12SR	ZG4002-12R
-13	1.020	25.91	1.010	25.65	SK4002-13SW	SK5002-13SW	ZG4002-13W	SK4002-13SR	SK5002-13SR	ZG4002-13R
-14	1.050	26.67	1.040	26.42	SK4002-14SW	SK5002-14SW	ZG4002-14W	SK4002-14SR	SK5002-14SR	ZG4002-14R
-15	1.080	27.43	1.070	27.18	SK4002-15SW	SK5002-15SW	ZG4002-15W	SK4002-15SR	SK5002-15SR	ZG4002-15R
-16	1.110	28.19	1.100	27.94	SK4002-16SW	SK5002-16SW	ZG4002-16W	SK4002-16SR	SK5002-16SR	ZG4002-16R
-17	1.140	28.96	1.130	28.70	SK4002-17SW	SK5002-17SW	ZG4002-17W	SK4002-17SR	SK5002-17SR	ZG4002-17R
-18	1.170	29.72	1.160	29.464	SK4002-18SW	SK5002-18SW	ZG4002-18W	SK4002-18SR	SK5002-18SR	ZG4002-18R
-19	1.200	30.48	1.190	30.226	SK4002-19SW	SK5002-19SW	ZG4002-19W	SK4002-19SR	SK5002-19SR	ZG4002-19R
-20	1.230	31.24	1.220	30.988	SK4002-20SW	SK5002-20SW	ZG4002-20W	SK4002-20SR	SK5002-20SR	ZG4002-20R
-21	1.260	32.00	1.250	31.75	SK4002-21SW	SK5002-21SW	ZG4002-21W	SK4002-21SR	SK5002-21SR	ZG4002-21R
-22	1.290	32.77	1.280	32.512	SK4002-22SW	SK5002-22SW	ZG4002-22W	SK4002-22SR	SK5002-22SR	ZG4002-22R
-23	1.320	33.53	1.310	33.274	SK4002-23SW	SK5002-23SW	ZG4002-23W	SK4002-23SR	SK5002-23SR	ZG4002-23R
-24	1.330	33.78	1.340	34.036	SK4002-24SW	SK5002-24SW	ZG4002-24W	SK4002-24SR	SK5002-24SR	ZG4002-24R

Skybolt CLoc® SK4000, ZG4000, SK5000 Series

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

Non-Adjusting Receptacles

New Design Stud Selection -

When Using SK214 and SK244 Series Non-Adjustable Receptacles

- 1) Enter Chart with Grommet Style Selected
- 2) Enter Chart Column with Receptacle Type Selected
- 3) Determine Target Stud Length

				Flush Grommets		Plus Flush Grommets	
				SK-G,H		SK-NSG,N2,N,O,N3	
							
							
G'				Non-Floating Rec		Non-Floating Rec	
Total Thickness				Floating Rec		Floating Rec	
inches		mm		Target Dash Number for SK4002, SK40S5, and SK5000 Series Studs			
Min	Max	Min	Max	STUD DASH#		STUD DASH#	
		Ultra Thin				-0*	-1*
.020	.050	0.51	1.27	NA	NA	-1*	-2
.051	.080	1.30	2.032	NA	-2	-2	-3
.081	.110	2.06	2.794	-2	-3	-3	-4
.111	.140	2.82	3.556	-3	-4	-4	-5
.141	.170	3.58	4.318	-4	-5	-5	-6
.171	.200	4.34	5.08	-5	-6	-6	-7
.200	.230	5.08	5.842	-6	-7	-7	-8
.231	.260	5.87	6.604	-7	-8	-8	-9
.261	.290	6.63	7.366	-8	-9	-9	-10
.291	.320	7.39	8.128	-9	-10	-10	-11
.321	.350	8.15	8.89	-10	-11	-11	-12
.351	.380	8.92	9.652	-11	-12	-12	-13
.381	.410	9.68	10.414	-12	-13	-13	-14
.411	.440	10.44	11.176	-13	-14	-14	-15
.441	.470	11.20	11.938	-14	-15	-15	-16
.471	.500	11.96	12.7	-15	-16	-16	-17
.501	.530	12.73	13.462	-16	-17	-17	-18
.531	.560	13.49	14.224	-17	-18	-18	-19
.561	.590	14.25	14.986	-18	-19	-19	-20
.591	.620	15.01	15.748	-19	-20	-20	-21
.621	.650	15.77	16.51	-20	-21	-21	-22
.651	.680	16.54	17.27	-21	-22	-22	-23
.681	.710	17.30	18.03	-22	-23	-23	-24
.711	.740	18.06	18.80	-23	-24	-24	-25
.741	.770	18.82	19.56	-24	-25	-25	-26
.771	.800	19.58	20.32	-25	-26	-26	-27
.801	.830	20.35	21.08	-26	-27	-27	-28
.831	.860	21.11	21.84	-27	-28	-28	-29
.861	.890	21.87	22.61	-28	-29	-29	-30
.891	.920	22.63	23.37	-29	-30	-30	-31

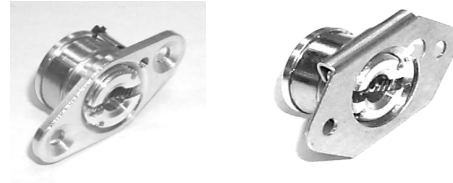
Skybolt CLoc® SK4000, ZG4000, SK5000 Series

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

Adjusting Receptacles

New Design Stud Selection - When Using SK215 and SK245 Adjustable Receptacles

- 1) Enter Chart with Grommet Style Selected
- 2) Determine Target Stud Length

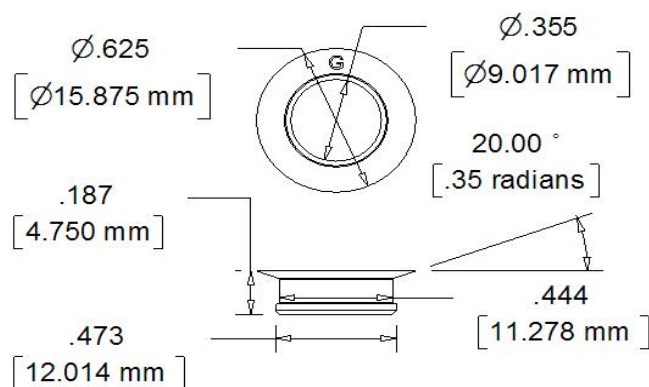


Note: One CLoc® Stud can cover the equivalent of 10 Stud lengths when using the SK215 or SK245 Receptacles.

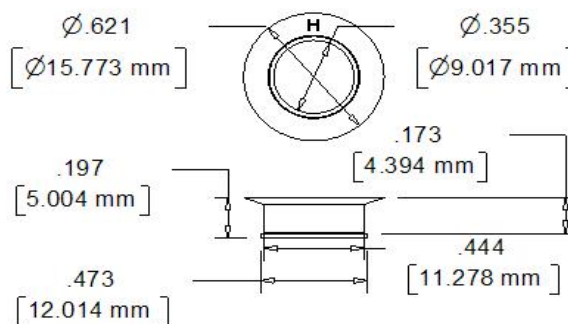
G' Total Thickness				Flush Grommets SK-G,H	Plus Flush Grommets SK-NSG,N2,N,O,N3
					
inches	mm			Target Dash Number for SK4002, SK40S5, and SK5000 Series Studs	
Min	Max	Min	Max	STUD DASH#	STUD DASH#
.010	.310	0.25	7.874	-1	-2
.040	.340	1.02	8.636	-2	-3
.070	.370	1.78	9.398	-3	-4
.100	.400	2.54	10.16	-4	-5
.130	.430	3.30	10.922	-5	-6
.160	.460	4.06	11.684	-6	-7
.190	.490	4.83	12.446	-7	-8
.220	.520	5.59	13.208	-8	-9
.250	.550	6.35	13.97	-9	-10
.280	.580	7.11	14.732	-10	-11
.310	.610	7.87	15.494	-11	-12
.340	.640	8.64	16.256	-12	-13
.370	.670	9.40	17.018	-13	-14
.400	.700	10.16	17.78	-14	-15
.430	.730	10.92	18.542	-15	-16
.460	.760	11.68	19.304	-16	-17
.490	.790	12.45	20.066	-17	-18
.520	.820	13.21	20.828	-18	-19
.550	.850	13.97	21.59	-19	-20
.580	.880	14.73	22.352	-20	-21
.610	.910	15.49	23.114	-21	-22
.640	.940	16.26	23.88	-22	-23
.670	.970	17.02	24.64	-23	-24
.700	1.000	17.78	25.40	-24	-25
.730	1.030	18.54	26.16	-25	-26
.760	1.060	19.30	26.92	-26	-27
.790	1.090	20.07	27.69	-27	-28
.820	1.120	20.83	28.45	-28	-29
.850	1.150	21.59	29.21	-29	-30
.880	1.180	22.35	29.97	-30	-31

Skybolt CLoc® SK4000 Series *Flush* Grommets

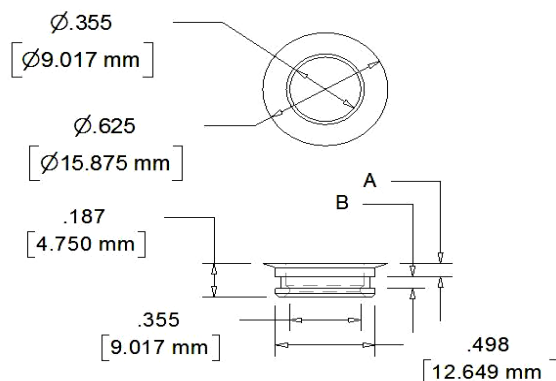
Standard Grommets (For Panels up to .117)



'G' Series - Panels to .074 Thickness



'H' Series - Panels to .117 Thickness



SK40G1 High Shear Series



Flush Grommets require 140° countersunk panels. Standard flush grommets are available in two thickness ranges, G for panels up to .074, and H for panels up to .117 in thickness. Many production aircraft installations used *Flush* Grommets.

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

Steel Grommet#	Type	Material	Panel Depth Range		Minimum Total Thickness*	
			R4G Snap Ring	R4T Snap Ring	SK215 or SK245 SK214-16A Receptacle	SK244-16 Receptacle
SK-G	Flush	Steel	Up to .074	Up to .058	.090	.060
SK40G1-5	Flush - High Shear	Steel	Up to .065	Up to .051	.120	.090
SK40G1-8	Flush - High Shear	Steel	Up to .092	Up to .051	.150	.120
SK-H	Flush	Steel	Up to .117	Up to .101	.150	.120

Stainless Grommet#	TSO-C148 Type	Material	Panel Depth Range		Minimum Total Thickness*	
			R4G Snap Ring	R4T Snap Ring	SK215 or SK245 SK214-16 Receptacle	SK244-16 Receptacle
SK-GS	Flush	Stainless	Up to .074	Up to .058	.090	.060
SK40G1-5S	Flush - High Shear	Steel	Up to .065	Up to .051	.120	.090
SK40G1-8S	Flush - High Shear	Steel	Up to .092	Up to .051	.150	.120
SK-HS	Flush	Stainless	Up to .117	Up to .101	.150	.120

*Lesser thickness allows grommet to jam against inside of receptacle when fastener is locked.

Skybolt CLoc® SK4000 Series PlusFlush Grommets

Standard Grommets (For Panels up to .094)

Extended Depth Grommets (For Panels .094 to .280)



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 1/4". 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 CLoc® Grommets Plus Flush (Chart 2)

Steel				Panel Depth Range		Minimum Total Thickness*	
Grommet#	'L'	Type	Material	R4G	R4T	SK215 or SK245	SK244-16
SK-N2		Plus Flush	Steel	Snap Ring	Snap Ring	.053	.023
SK-N		Plus Flush	Steel	Up to .025	Up to .011	.090	.060
SK-NG		Flush - For -0/-1 Studs	Steel	Up to .065	Up to .049	.090	.060
SK-O		Plus Flush	Steel	Up to .065	Up to .049	.090	.060
SK-O18	.265	Plus Flush Ext Depth	Steel	.066 to .094	.050 to .078	.116	.086
SK-316	.352	Plus Flush Ext Depth	Steel	.095 to .150	.079 to .130	.152	.125
SK-014	.428	Plus Flush Ext Depth	Steel	.151 to .220	.131 to .200	.200	.187
			Steel	.221 to .280	.201 to .260	.270	.250

Stainless				Panel Depth Range		Minimum Total Thickness*	
Grommet#	'L'	Type	Material	R4G	R4T	SK215 or SK245	SK244-16
SK-N2S		Plus Flush	Steel	Snap Ring	Snap Ring	.053	.023
SK-NS		Plus Flush	Stainless	Up to .025	Up to .011	.090	.060
SK-NGS		Flush - For -0/-1 Studs	Stainless	Up to .065	Up to .049	.090	.060
SK-OS		Plus Flush	Stainless	Up to .065	Up to .049	.090	.060
SK-O18S	.265	Plus Flush Ext Depth	Stainless	.066 to .094	.050 to .078	.116	.086
SK-316S	.352	Plus Flush Ext Depth	Stainless	.095 to .150	.079 to .130	.152	.125
SK-O14S	.428	Plus Flush Ext Depth	Stainless	.151 to .220	.131 to .200	.200	.187
			Stainless	.221 to .280	.201 to .260	.270	.250

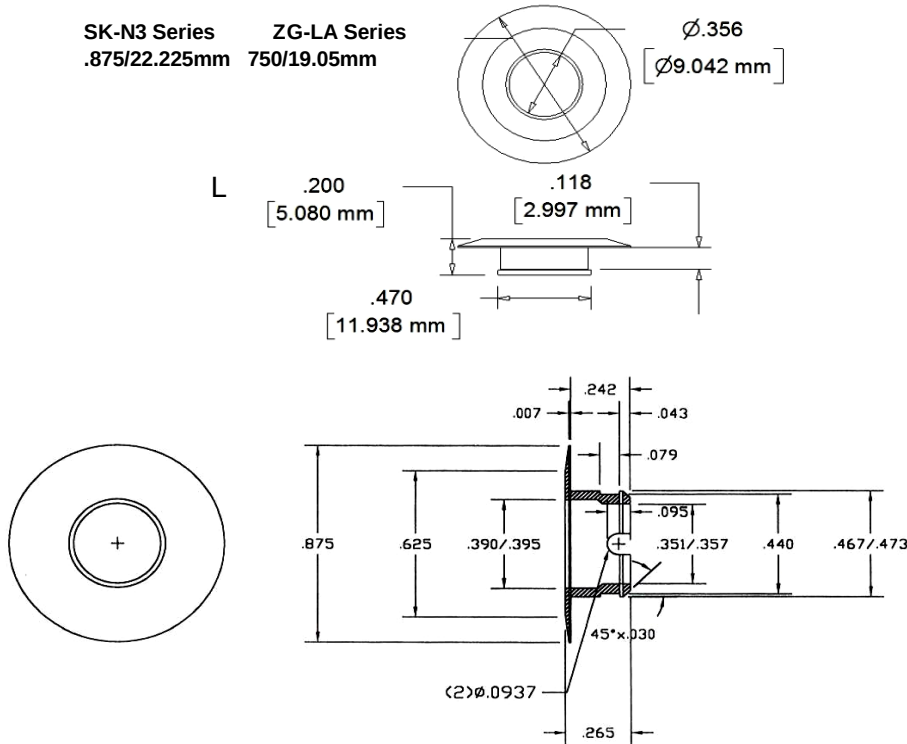
Skytanium®				Panel Depth Range		Minimum Total Thickness*	
Grommet#	'L'	Type	Material	R4G	R4T	SK215 or SK245	244-16
ZG-094	.197	Plus Flush	Skytanium	Snap Ring	Snap Ring	214-16 Receptacle	Receptacle
				.066 to .094	.050 to .078	.116	.086

*Lesser thickness allows grommet to jam against inside of receptacle when fastener is locked.

Skybolt CLoc® SK4000 Series *PlusFlush* Grommets

Large Area

Extended Depth Grommets (For Panels .094 to .280)



SK-N3 Series



SK-N316 Series

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 1/4". 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 CLoc® Grommets Plus Flush (Chart 3)

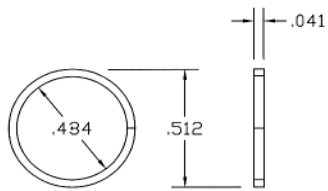
Steel Grommet#	Type	'W'	'L'	Material	Panel Depth Range		Minimum Total Thickness*	
					R4G Snap Ring	R4T Snap Ring	SK215 or SK245 SK214-16A Receptacle	SK244-16 Receptacle
SK-N3	Large Area	.875	.200	Steel	Up to .065	Up to .049	.090	.060
SK-N316	Large Area	.875	.265	Steel	.151 to .220	.131 to .200	.200	.187

Stainless Grommet#	TSO-C148 Type	'W'	'L'	Material	Panel Depth Range		Minimum Total Thickness*	
					R4G Snap Ring	R4T Snap Ring	SK215 or SK245 SK214-16 Receptacle	SK244-16 Receptacle
SK-N3S	Large Area	.875	.200	Stainless	Up to .065	Up to .049	.090	.060
SK-N316S	Large Area	.875	.265	Stainless	.151 to .220	.131 to .200	.200	.187

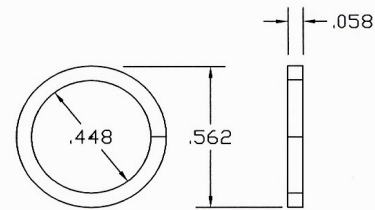
Skytanium® Grommet#	Type	'W'	'L'	Material	Panel Depth Range		Minimum Total Thickness*	
					R4G Snap Ring	R4T Snap Ring	SK215 or SK245 214-16 Receptacle	244-16 Receptacle
ZG-094LA	Large Area	.750	.200	Skytanium	.066 to .094	.050 to .078	.116	.086
ZG-125LA	Large Area	.750	.265	Skytanium	.095 to .150	.079 to .130	.152	.125
ZG-187LA	Large Area	.750	.352	Skytanium	.151 to .220	.131 to .200	.200	.187
ZG-250LA	Large Area	.750	.428	Skytanium	.221 to .280	.201 to .260	.270	.250

*Lesser thickness allows grommet to jam against inside of receptacle when fastener is locked.

Skybolt CLoc® SK4000 and SK5000 Series ZG4000 Series Grommet Retainers



SK-R4G



SK-R4T

Install with SK-T26 -or- SK-SP5 Tools

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.

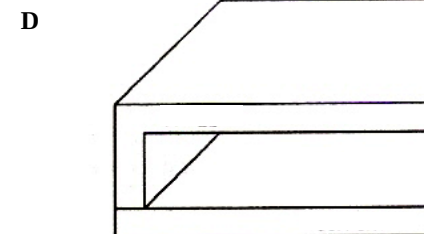
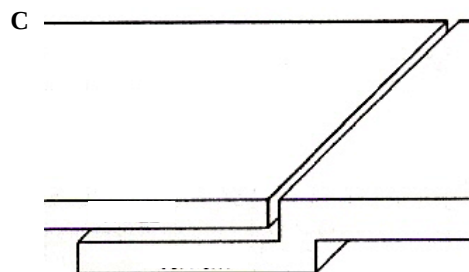
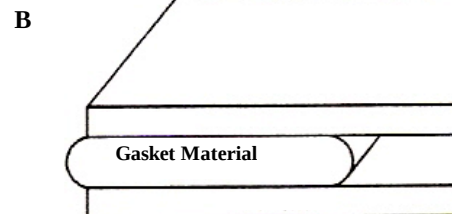
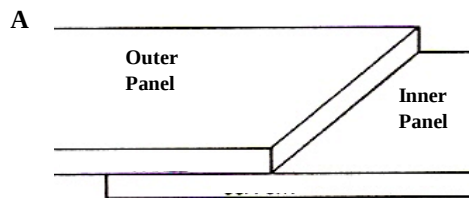


**SK-R500 Series
Grommet Backing Washer**

Part#	Sleeve OD
SK-R560	.560

Use with standard grommets and retainer

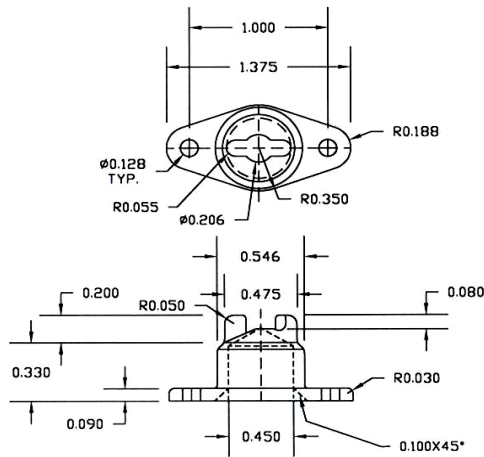
Common Panel Configurations



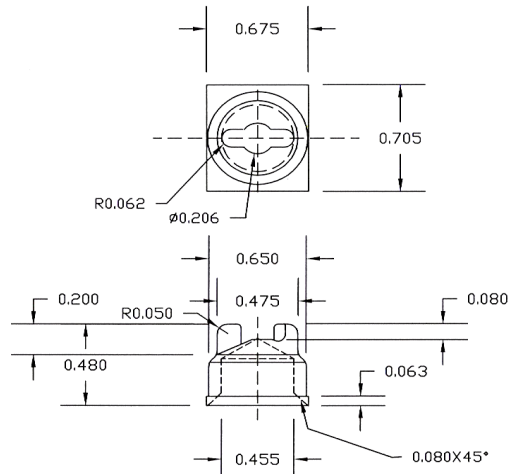
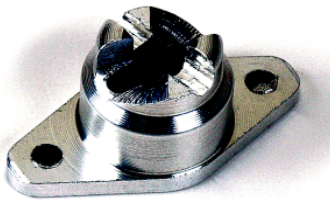
Skybolt CLoc® SK4000 Series

Non-Adjusting - Fixed Depth Receptacles

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



SK214 Non-Floating Series



SK244 Floating Series



			Weight					Weight	
Material	Finish	Rivet Size	LB/Grams		Material	Finish	Rivet Size	LB/Grams	
SK214-16	Steel	Zinc	1/8	.0100/4.5	SK244-16	Steel	Zinc	1/8	.009/4.2
SK214-16A	Alum6061	None	1/8	.0060/2.8	SK244-16A	Alum6061	None	1/8	.009/4.2
SK214-16AA	Alum6061	Anodized	1/8	.0060/2.8	SK244-16AA	Alum6061	Anodized	1/8	.009/4.2
SK214-16AB	Alum6061	Anodized	1/8	.0060/2.8	SK244-16AB	Alum6061	Anodized	1/8	.009/4.2

Skybolt CLoc® SK4000, ZG4000, SK5000 Series

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

Adjusting Receptacles



SK215-4	Non-Floating - Locking Clip-Rivet	Alum6061	None	1/8	.0115/5.2
SK215-5	Non-Floating - Shuttle Pin Lock-Rivet	Alum6061	None	1/8	.0115/5.2
SK215-5A	Non-Floating - Shuttle Pin Lock-Rivet	Alum6061	Anodized II	1/8	.0115/5.2
SK215-5B	Non-Floating - Shuttle Pin Lock-Rivet	Alum6061	Anodized III	1/8	.0115/5.2
SK215-5ENC	Non-Floating - Shuttle Pin Lock-Rivet-Encapsulated	Alum6061	None	1/8	.0165/7.4
SK215-ENC-A	Non-Floating - Shuttle Pin Lock-Rivet-Encapsulated	Alum6061	Anodized II	1/8	.0165/7.4
SK215-BN5	Non-Floating - Backing Nut	Alum6061	None	Nut	
SK215BN5A	Non-Floating - Backing Nut	Alum6061	Anodized II	Nut	
SK215BN5ENC	Non-Floating - Backing Nut - Encapsulated	Alum6061	None	Nut	
SK215BN5ENCA	Non-Floating - Backing Nut - Encapsulated	Alum6061	Anodized II	Nut	
SK245-4	Floating, Clip Lock-Rivet	Alum6061	None	1/8	.0140/6.2
SK245-5	Floating, Shuttle Pin-Rivet	Alum6061	None	1/8	.0140/6.2
SK245-5A	Floating, Shuttle Pin-Rivet	Alum6061	Anodized II	1/8	.0140/6.2
SK245-5ENC	Floating, Shuttle Pin-Rivet - Encapsulated	Alum6061	None	1/8	.0170/7.5
SK245-5ENCA	Floating, Shuttle Pin-Rivet - Encapsulated	Alum6061	Anodized II	1/8	.0170/7.5



SK-SP5 Receptacle Adjustment Tool Grommet Retainer Installation Tool

Specifically designed to preset and adjust CLoc® 4000 Series Adjustable Receptacle and Mounts. Locking Sleeve can be set for known panel thickness to preset SK215, SK245, and SK2003 Dash 5 Series receptacles. With stud removed from grommet in outer panel, tool may be inserted into the receptacle to unlock and adjust insert without even seeing the insert. Positioning sleeve to the opposite end of tool, it becomes a "T26" Tool for installing grommet retainers.