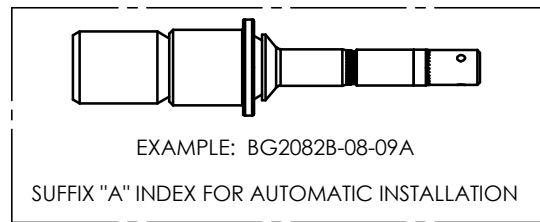


PART NUMBER	NOM DIA	A DIA THEO.	A' DIA MIN.	C REF	D DIA	E DIA MAX	F FLATS	H REF	J DIA MIN	K MAX	L REF	M	N	R MAX	V GAGE PROT	W GAGE DIA	Z MAX			
BG2082(-)05(-)	5/32	.332 .325	.296	1/4	.1635 .1625	.1615	.084 .082	.070	.250	.670	.735	.270 .260	.037 .034	.025	.0223 .0197	.2832 .2830	.015			
BG2082(-)06(-)	3/16	.385 .378	.342	5/16	.1875 .1885	.1875	.112 .109	.081 .077	.290 .300	.750	.800	.320 .310	.047 .044	.030	.0239 .0212	.3272 .3270	.016			
BG2082(-)06(-)X	13/64				.2024 .2016	.1995												.2182 .2172	.2150	.2182 .2172
BG2082(-)06(-)Y	7/32	.507 .499	.463		.2651 .2641	.2620	.135 .131	.104	.400	.800	.950	1.025	.420 .410		.068 .063	.0405 .0365	.4320 .4318	.018		
BG2082(-)08(-)	1/4	.2807 .2797	.2775		.3120 .3110	.3090	.152 .149	.129	.495	.950	1.000	.460 .450	.068 .063		.0405 .0365	.5389 .5385	.020			
BG2082(-)08(-)X	17/64	.635 .626	.577	3/8	.3276 .3266	.3245	.152 .149	.129	.495	.950	1.000	.480 .470	.068 .063	.0405 .0365	.5389 .5385	.020				
BG2082(-)08(-)Y	9/32	.3432 .3422	.3400	.3745 .3735	.3715	.184 .181	.155	.580	1.100	1.200	.560 .550	.082 .077	.0458 .0415	.6532 .6528	.023					
BG2082(-)10(-)	5/16	.4057 .4047	.4025	.4370 .4360	.4335	.220 .217	.190	.655	1.250	1.410	.640 .630	.094 .089	.0966 .0924	.6582 .6580	.026					
BG2082(-)10(-)X	21/64	.890 .882	.830	.4526 .4516	.4490	.4995 .4985	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					
BG2082(-)10(-)Y	11/32	.3276 .3266	.3245	.3432 .3422	.3400	.3745 .3735	.3715	.184 .181	.155 .148	.600	1.275	.575 .565	.082 .077	.0966 .0924	.6582 .6580	.026				
BG2082(-)12(-)	3/8	.4370 .4360	.4335	.4526 .4516	.4490	.4995 .4985	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					
BG2082(-)12(-)X	25/64	.762 .752	.696	.3901 .3891	.3870	.4057 .4047	.4025	.4370 .4360	.4335	.220 .217	.190 .184	.655 .680	.094 .089	.0966 .0924	.6582 .6580	.026				
BG2082(-)12(-)Y	13/32	.890 .882	.830	.4526 .4516	.4490	.4995 .4985	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					
BG2082(-)14(-)	7/16	.4370 .4360	.4335	.4526 .4516	.4490	.4995 .4985	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					
BG2082(-)14(-)X	29/64	1.015 1.007	.960	1/2	.4995 .4985	.4955	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					
BG2082(-)16(-)	1/2	1.015 1.007	.960	1/2	.4995 .4985	.4955	.256 .253	.216	.750	1.350	1.530	.740 .730	.106 .101	.1496 .1463	.030					

PART NUMBER	MIN AVAILABLE GRIP DASH NO.	RECOMMENDED HOLE SIZE FOR:		PREVAILING TORQUE (IN-LBS) MIN	DOUBLE SHEAR (LBS) MIN	TENSILE STRENGTH (LBS) MIN	BREAK-OFF LIMITS MAX
		△ CLEARANCE INSTALLATION	△ INTERFERENCE INSTALLATION				
BG2082(-)05(-)	-03	.167 .165	.1635 .1622	2	4010	1350	.015
BG2082(-)06(-)		.192 .190	.1890 .1875				
BG2082(-)06(-)X		.205 .203	.2015 .1997	4	6130	1600	
BG2082(-)06(-)Y		.2205 .2185	.2171 .2152				
BG2082(-)08(-)	-04	.252 .250	.2489 .2472	6	9300	3000	.020
BG2082(-)08(-)X		.268 .266	.2640 .2622				
BG2082(-)08(-)Y		.2835 .2815	.2796 .2777	8	17600	5000	
BG2082(-)10(-)		.315 .313	.3110 .3092				
BG2082(-)10(-)X	.3305 .3285	.3265 .3247	10	24600	7000	.025	
BG2082(-)10(-)Y	.346 .344	.3421 .3402					
BG2082(-)12(-)	-05	.377 .375	.3735 .3717	12	37000		12500
BG2082(-)12(-)X		.393 .391	.3891 .3872				
BG2082(-)12(-)Y		.409 .407	.4047 .4027	10	24600	7000	
BG2082(-)14(-)		.440 .438	.4360 .4340				
BG2082(-)14(-)X	.456 .454	.4516 .4496	12	37000	12500		
BG2082(-)14(-)Y	.502 .500	.4985 .4965					




EXAMPLE OF PART NUMBER:
 BG2082 (-) - 08 - 09 (-)

- DESIGNATION: " " = NOMINAL DIA
- "X" = 1/64" OVERSIZE
- "Y" = 1/32" OVERSIZE
- DESIGNATES MAX GRIP IN 1/16" INCREMENTS
- DESIGNATES BASIC DIMENSIONS
- DESIGNATES SPECIAL CODE
- DESIGNATES BASIC PART NUMBER

U.S. PATENT NO.: 5,498,110; 5,634,751 AND FOREIGN PATENTS PENDING


<p>MONOGRAM AEROSPACE FASTENERS a TriMas company 3423 SOUTH GARFIELD AVENUE COMMERCE, CALIFORNIA 90040 (323) 722-4760 FAX (323) 727-1029</p>	TITLE:	OSI BOLT™ 100° FLUSH TENSION HEAD CLOSE TOLERANCE SHANK TITANIUM, 95 KSI SHEAR STRENGTH 1/16" GRIP VARIATION		DRAWING NO:	BG2082(-)(-)(-)(-)(-)		
				DRAWN BY:	M. DOMINGUEZ	DRAWN DATE:	06-29-13
				APPROVED BY:		CHECKED DATE:	
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PART NUMBER	COMPONENTS							
	BODY		SLEEVE		NUT		COREBOLT	
	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH
BG2082A-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A	304 SS PER AMS5639 FULLY ANNEALED	PASSIVATE PER AMS-QQ-P-35	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082B-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	PHOSPHATE FLUORIDE PER BAC5861	304 SS PER AMS5639 FULLY ANNEALED	PASSIVATE PER AMS-QQ-P-35	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082C-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	PHOSPHATE FLUORIDE PER BAC5861	304 SS PER AMS5639 FULLY ANNEALED	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A, OR HI-KOTE PER NAS4006	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082D-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A	304 SS PER AMS5639 FULLY ANNEALED	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A, OR HI-KOTE PER NAS4006	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082E-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A	304 SS PER AMS5639 FULLY ANNEALED	IVD ALUM. COAT PER MIL-DTL-83488 CLASS 3, TYPE II	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER PS741	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082EE-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ALUMINUM COAT HI-KOTE PER NAS4006	304 SS PER AMS5639 FULLY ANNEALED	IVD ALUM. COAT PER MIL-DTL-83488 CLASS 3, TYPE II	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER PS741	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082F-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ANODIZE PER ISO 8080-1985	304 SS PER AMS5639 FULLY ANNEALED	PASSIVATE PER AMS-QQ-P-35	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082G-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	ALUMINUM COAT HI-KOTE PER NAS4006	304 SS PER AMS5639 FULLY ANNEALED	ALUMINUM COAT HI-KOTE PER NAS4006	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	PHOSPHATE FLUORIDE PER BAC5861	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082H-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE	304 SS PER AMS5639 FULLY ANNEALED	ALUMINUM PIGMENTED COAT PER BMS-10-85 TYPE I, CLASS A	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	NONE 	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082HH-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE	304 SS PER AMS5639 FULLY ANNEALED	ALUMINUM COAT HI-KOTE PER NAS4006	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	ALUMINUM COAT HI-KOTE PER NAS4006	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE
BG2082J-(-)(-)(-)	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED AS REQ'D FOR PERFORMANCE	IVD ALUM. COAT PER MIL-DTL-83488 CLASS 3, TYPE II	304 SS PER AMS5639 FULLY ANNEALED	IVD ALUM. COAT PER MIL-DTL-83488 CLASS 3, TYPE II	6Al-4V Ti PER AMS4967 OR AMS4928, HEAT TREATED TO 160 KSI MINIMUM TENSILE	NONE	6Al-6V-2Sn Ti PER AMS4971, HEAT TREATED AS REQ'D FOR PERFORMANCE	NONE

INSTALLATION SPECIFICATION: BG 2003
 PROCUREMENT SPECIFICATION: BG 2000

GENERAL NOTES:

- LUBRICANT: SOLID FILM LUBRICANT PER AS5272, TYPE I AND/OR PARAFFIN WAX OR CETYL ALCOHOL AS REQUIRED FOR PERFORMANCE. AS5272 THICKNESS AND PAINT ADHESION REQUIREMENTS DO NOT APPLY. SOLID FILM LUBRICANT NOT ALLOWED ON COREBOLT HEAD AND BODY HEAD SURFACES. SLIGHT OVERSPRAY INTO RECESS IS ACCEPTABLE. FULL COVERAGE OF SOLID FILM LUBRICANT ON EXTERIOR OF BODY SHANK IS REQUIRED FOR NON-ALUM COATED BODY.
 - LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.
 - SEE BG2003 FOR INSTALLATION AND REMOVAL INFORMATION.
- <T#P-4> GRIP LENGTHS NOT LISTED MAY BE AVAILABLE UPON REQUEST.
- <T#P-5> INSTALLATION HOLE SHALL BE RADIUSUED TO CLEAR HEAD TO SHANK RADIUS.
- ALL DIMENSIONS TO BE MET AFTER FINISH AND BEFORE LUBRICATION.
 - CONICAL SURFACE OF HEAD SHALL BE CONCENTRIC TO SHANK DIAMETER WITHIN .005 T.I.R.
- <T#P-8> INSERT FABRICATED FROM ACETAL PLASTIC PER ASTM-D-4181.
- <T#P-9> ASSEMBLIES HAVING THE NUT COMPONENT MANUFACTURED BEFORE 02-23-12 SHALL NOT BE REJECTED FOR ALUM COAT FINISH AND CAN BE USED UNTIL STOCK DEPLETION.

 2ND DASH NO.	GRIP RANGE (INCHES)	
	MIN GRIP	MAX GRIP
-02	.063	.125
-03	.126	.187
-04	.188	.250
-05	.251	.312
-06	.313	.375
-07	.376	.437
-08	.438	.500
-09	.501	.562
-10	.563	.625
-11	.626	.687
-12	.688	.750
-13	.751	.812
-14	.813	.875
-15	.876	.937
-16	.938	1.000
-17	1.001	1.062
-18	1.063	1.125
-19	1.126	1.187
-20	1.188	1.250
-21	1.251	1.312
-22	1.313	1.375
-23	1.376	1.437
-24	1.438	1.500
-25	1.501	1.562
-26	1.563	1.625
-27	1.626	1.687
-28	1.688	1.750
-29	1.751	1.812
-30	1.813	1.875
-31	1.876	1.937
-32	1.938	2.000

U.S. PATENT NO.: 5,498,110; 5,634,751 AND FOREIGN PATENTS PENDING



TITLE: OSI BOLT™
 100° FLUSH TENSION HEAD
 CLOSE TOLERANCE SHANK
 TITANIUM, 95 KSI SHEAR STRENGTH
 1/16" GRIP VARIATION

DRAWING NO: BG2082(-)(-)(-)(-)
 DRAWN BY: M. DOMINGUEZ
 DRAWN DATE: 06-29-13
 APPROVED BY:
 CHECKED DATE:

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 SHEET 2 OF 2