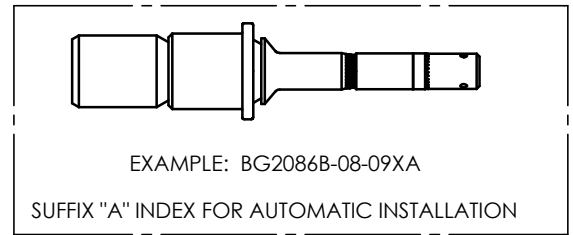


| PART NUMBER | NOM DIA | A DIA THEO | A' DIA MIN | C REF | D DIA | E DIA MAX | F FLATS | H REF | J DIA MIN | K MAX | L REF | M | N | R MAX | V GAGE PROT | W GAGE DIA | Z MAX | |
|-----------------|---------|--------------|------------|-------|----------------|-----------|--------------|-------|-----------|-------|-------|--------------|--------------|-------|----------------|----------------|-------|-------|
| | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | INCH | |
| BG2086(-)05(-) | 5/32 | .283 .277 | .258 | 1/4 | .1635 .1625 | .1615 | .084 .082 | .049 | .250 | .670 | .735 | .256 .246 | .037 .034 | .025 | .0330 .0298 | .2028 .2026 | .010 | |
| BG2086(-)06(-) | 3/16 | .327 .321 | .291 | 5/16 | .1895 .1885 | .1875 | .112 .109 | .056 | .290 | .750 | .800 | .290 .280 | .047 .044 | .030 | .0345 .0313 | .2441 .2439 | .015 | |
| BG2086(-)06(-)X | 13/64 | | | | .2026 .2016 | .1995 | | .045 | .320 | | | | | | | | | .850 |
| BG2086(-)06(-)Y | 7/32 | | | | .2182 .2172 | .2150 | | .073 | .380 | | | | | | | | | .800 |
| BG2086(-)08(-) | 1/4 | .428 .422 | .392 | 3/8 | .2495 .2485 | .2470 | .135 .131 | .066 | .400 | .950 | 1.000 | .390 .380 | .055 .050 | .040 | .0402 .0370 | .3315 .3313 | .015 | |
| BG2086(-)08(-)X | 17/64 | | | | .2651 .2641 | .2620 | | .060 | .415 | | | | | | | | | 1.025 |
| BG2086(-)08(-)Y | 9/32 | | | | .2807 .2797 | .2775 | | .093 | .475 | | | | | | | | | .950 |
| BG2086(-)10(-) | 5/16 | .536 .530 | .500 | 7/16 | .3120 .3110 | .3090 | .152 .149 | .086 | .495 | .950 | 1.075 | .460 .450 | .068 .063 | .040 | .0432 .0396 | .4320 .4318 | .015 | |
| BG2086(-)10(-)X | 21/64 | | | | .3276 .3266 | .3245 | | .110 | .560 | | | | | | | | | 1.200 |
| BG2086(-)10(-)Y | 11/32 | | | | .3432 .3422 | .3400 | | .079 | .515 | | | | | | | | | 1.200 |
| BG2086(-)12(-) | 3/8 | .641 .635 | .605 | 1.100 | .3745 .3735 | .3715 | .184 .181 | .103 | .580 | 1.100 | 1.275 | .560 .550 | .082 .077 | .040 | .0649 .0613 | .4854 .4852 | .015 | |
| BG2086(-)12(-)X | 25/64 | | | | .3901 .3891 | .3870 | | .097 | .600 | | | | | | | | | 1.275 |
| BG2086(-)12(-)Y | 13/32 | | | | .4057 .4047 | .4025 | | | | | | | | | | | | |

| PART NUMBER | MIN AVAILABLE GRIP DASH NO. | RECOMMENDED HOLE SIZE FOR: | | PREVAILING TORQUE MIN | DOUBLE SHEAR MIN | TENSILE STRENGTH MIN | BREAK-OFF MAX |
|-----------------|-----------------------------|----------------------------|-----------------------------|-----------------------|------------------|----------------------|---------------|
| | | △ CLEARANCE INSTALLATION | △ INTERFERENCE INSTALLATION | | | | |
| | | INCH | INCH | IN-LBS | LBS | LBS | INCH |
| BG2086(-)05(-) | -02.5 | .167 .165 | .1635 .1622 | 2 | 4010 | 1350 | .015 |
| BG2086(-)06(-) | -03 | .192 .190 | .1890 .1875 | 4 | 6130 | 1600 | .020 |
| BG2086(-)06(-)X | | .205 .203 | .2015 .1997 | | | | |
| BG2086(-)06(-)Y | | .2205 .2185 | .2171 .2152 | | | | |
| BG2086(-)08(-) | -03 | .252 .250 | .2489 .2472 | 6 | 10500 | 3000 | .020 |
| BG2086(-)08(-)X | | .268 .266 | .2640 .2622 | | | | |
| BG2086(-)08(-)Y | | .2835 .2815 | .2796 .2777 | | | | |
| BG2086(-)10(-) | -04 | .315 .313 | .3110 .3092 | 8 | 16000 | 5000 | .020 |
| BG2086(-)10(-)X | | .3305 .3285 | .3265 .3247 | | | | |
| BG2086(-)10(-)Y | | .346 .344 | .3421 .3402 | | | | |
| BG2086(-)12(-) | -04 | .377 .375 | .3735 .3717 | 10 | 21000 | 7000 | .020 |
| BG2086(-)12(-)X | | .393 .391 | .3891 .3872 | | | | |
| BG2086(-)12(-)Y | | .409 .407 | .4047 .4027 | | | | |



EXAMPLE OF PART NUMBER:

BG2086 (-) - 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

MONOGRAM AEROSPACE FASTENERS
a TriMas company
3423 SOUTH GARFIELD AVENUE
COMMERCE, CALIFORNIA 90040
(323) 722-4760 FAX (323) 727-1029

TITLE:
OSI BOLT™
100° FLUSH (ASNA2391) SHEAR HEAD
CLOSE TOLERANCE SHANK
TITANIUM, 95 KSI SHEAR STRENGTH
1/16" GRIP VARIATION

DRAWING NO:
BG2086(-)(-)(-)(-)

DRAWN BY: **M. DOMINGUEZ** DRAWN DATE: **08/21/13**

APPROVED BY: _____ CHECKED DATE: _____

MONOGRAM CAGE CODE: **98524** ECN NO: **15-0265** REV: **M**

ECN DATE: **07/14/15** SHEET 1 OF 2

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| PART NUMBER | COMPONENTS | | | | | | | |
|-------------------|---|---|---|---|---|---|---|--------|
| | BODY | | SLEEVE | | NUT | | COREBOLT | |
| | MATERIAL | FINISH | MATERIAL | FINISH | MATERIAL | FINISH | MATERIAL | FINISH |
| BG2086A(-)-(-)(-) | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED AS REQ'D FOR PERFORMANCE | ALUMINUM PIGMENTED COAT PER NAS4006 | 304 SS PER AMS5639 FULLY ANNEALED | PASSIVATE PER AMS2700 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086B(-)-(-)(-) | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED AS REQ'D FOR PERFORMANCE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 304 SS PER AMS5639 FULLY ANNEALED | PASSIVATE PER AMS2700 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086C(-)-(-)(-) | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED AS REQ'D FOR PERFORMANCE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 304 SS PER AMS5639 FULLY ANNEALED | ALUMINUM PIGMENTED COAT PER NAS4006 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086D(-)-(-)(-) | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED AS REQ'D FOR PERFORMANCE | ALUMINUM PIGMENTED COAT PER NAS4006 | 304 SS PER AMS5639 FULLY ANNEALED | ALUMINUM PIGMENTED COAT PER NAS4006 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086E(-)-(-)(-) | 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 ALUMINUM COAT PER MIL-C-83488 TYPE II, CL 3 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086F(-)-(-)(-) | 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 AMS2700 | 6AL-4V Ti PER AMS4967 OR AMS4928 HEAT TREATED TO 160 KSI MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086G(-)-(-)(-) | 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 MIN TENSILE | PHOSPHATE FLUORIDE PER AMS2486 AND PS741 | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |
| BG2086H(-)-(-)(-) | 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 MIN TENSILE | NONE | 6AL-6V-2Sn Ti PER AMS4971 HEAT TREATED AS REQ'D FOR PERFORMANCE | NONE |

INSTALLATION SPECIFICATION: BG2003
 PROCUREMENT SPECIFICATION: BG2000

GENERAL NOTES:

- LUBRICANT: SOLID FILM LUBRICANT PER AS5272, TYPE I AND/OR PARAFIN 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 SURFACES. SLIGHT OVERSPRAY INTO RECESS IS ACCEPTABLE. FULL COVERAGE OF SOLID FILM LUBRICANT ON EXTERIOR OF BODY SHANK FOR NON-ALUMINUM FINISH PARTS IS REQUIRED.
- LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT.
- SEE BG2003 FOR INSTALLATION AND REMOVAL INFORMATION.
- GRIP LENGTHS NOT LISTED MAY BE AVAILABLE UPON REQUEST.
- INSTALLATION HOLE SHALL BE RADIUS 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.
- INSERT FABRICATED FROM ACETAL PLASTIC PER ASTM-D4181.

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

| 4 2ND DASH NO. | GRIP RANGE (INCHES) | |
|-------------------------|------------------------|-------------|
| | MIN GRIP | MAX GRIP |
| -02 | .063 | .125 |
| -02.5 | .092 | .156 |
| -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 |



TITLE:
OSI BOLT™
 100° FLUSH (ASNA2391) SHEAR HEAD
 CLOSE TOLERANCE SHANK
 TITANIUM, 95 KSI SHEAR STRENGTH
 1/16" GRIP VARIATION

DRAWING NO:
BG2086(-)-(-)-(-)(-)

DRAWN BY:
M. DOMINGUEZ

DRAWN DATE:
08/21/13

APPROVED BY:

CHECKED DATE:

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