

**TABLE I**

PART NUMBER	Ø A		Ø A' MIN		Ø D		Ø E MAX		F WRENCH FLATS		(G)		(H)		(L)		R. R MAX		S MAX		(T) HEX ACROSS FLATS	
	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm
MBF2143-5(-)	.332 .325	8.43 8.25	.296	7.52	.1645 .1625	4.178 4.128	.1640	4.166	.085 .080	2.16 2.03	.017	0.43	.039	0.99	.512	13.00	.030	0.76	.009	0.23	.375	9.52
MBF2143-6(-)	.385 .378	9.78 9.60	.342	8.69	.1985 .1965	5.042 4.991	.1985	5.042	.113 .108	2.87 2.74	.027	0.68	.043	1.09	.575	14.61	.030	0.76	.011	0.28	.375	9.52
MBF2143-7(-)	.416 .409	10.57 10.39	.373	9.47	.2275 .2255	5.778 5.728	.2275	5.778	.121 .116	3.07 2.95	.035	0.89	.043	1.09	.635	16.13	.030	0.76	.011	0.28	.375	9.52
MBF2143-8(-)	.507 .499	12.88 12.67	.463	11.76	.2595 .2575	6.591 6.541	.2595	6.591	.135 .130	3.43 3.30	.055	1.40	.057	1.45	.700	17.78	.030	0.76	.011	0.28	.375	9.52
MBF2143-9(-)	.538 .530	13.66 13.46	.494	12.55	.2895 .2875	7.353 7.303	.2895	7.353	.152 .147	3.86 3.73	.065	1.65	.057	1.45	.815	20.70	.030	0.76	.011	0.28	.500	12.70
MBF2143-10(-)	.635 .626	16.13 15.90	.577	14.66	.3115 .3095	7.912 7.861	.3110	7.899	.152 .147	3.86 3.73	.070	1.78	.075	1.90	.892	22.66	.040	1.02	.014	0.36	.500	12.70
MBF2143-11(-)	.666 .657	16.92 16.69	.608	15.44	.3435 .3415	8.725 8.674	.3433	8.720	.185 .180	4.70 4.57	.075	1.90	.075	1.90	.941	23.90	.040	1.02	.015	0.38	.500	12.70
MBF2143-12(-)	.762 .752	19.35 19.10	.696	17.68	.3745 .3725	9.512 9.462	.3740	9.500	.185 .180	4.70 4.57	.080	2.03	.089	2.26	1.090	27.69	.040	1.02	.016	0.41	.500	12.70

**TABLE I (CONTINUED)**

PART NUMBER	MINIMUM AVAILABLE GRIP DASH NO.	INSTALLED DIMENSIONS						MECHANICAL PROPERTIES						V (GAGE PROTRUSION)		Ø W (GAGE)			
		RECOM. HOLE SIZE		Ø J MIN		K MAX		BREAK-OFF LIMITS		TENSILE STRUCTURAL FAILURE MIN		DOUBLE SHEAR MIN						LOCKING TORQUE MIN	
		INCH	mm	INCH	mm	INCH	mm	INCH	mm	LBS	N	LBS	N	IN-LBS	N-m	INCH	mm	INCH	mm
MBF2143-5(-)	-100	.168 .165	4.27 4.19	.250	6.35	.300	7.62	+103 -000	+2.62 -0.00	900	4000	3150	14010	1.0	0.113	.0115 .0095	0.292 0.241	.2832 .2830	7.193 7.188
MBF2143-6(-)	-150	.202 .199	5.13 5.05	.300	7.62	.350	8.89	+103 -000	+2.62 -0.00	1400	6230	4600	20460	1.5	0.170	.0140 .0114	0.356 0.289	.3272 .3270	8.311 8.306
MBF2143-7(-)	-150	.231 .228	5.88 5.79	.350	8.89	.400	10.16	+103 -000	+2.62 -0.00	1600	7120	6050	26910	2.0	0.226	.0202 .0176	0.513 0.447	.3315 .3313	8.420 8.415
MBF2143-8(-)	-150	.263 .260	6.68 6.60	.400	10.16	.450	11.43	+103 -000	+2.62 -0.00	2100	9340	7900	35140	2.5	0.282	.0180 .0151	0.457 0.384	.4320 .4318	10.973 10.968
MBF2143-9(-)	-150	.293 .290	7.44 7.37	.450	11.43	.500	12.70	+103 -000	+2.62 -0.00	2600	11565	9800	43590	3.0	0.339	.0247 .0224	0.627 0.569	.4320 .4318	10.973 10.968
MBF2143-10(-)	-200	.315 .312	8.00 7.92	.475	12.06	.550	13.97	+103 -000	+2.62 -0.00	3600	16010	11350	50480	3.5	0.400	.0227 .0201	0.577 0.511	.5389 .5385	13.688 13.678
MBF2143-11(-)	-200	.347 .344	8.81 8.74	.525	13.33	.575	14.60	+103 -000	+2.62 -0.00	4400	19570	13850	61600	4.0	0.452	.0302 .0276	0.767 0.701	.5389 .5385	13.688 13.678
MBF2143-12(-)	-250	.378 .375	9.60 9.52	.575	14.60	.625	15.87	+103 -000	+2.62 -0.00	5000	22240	16450	73170	4.0	0.452	.0255 .0228	0.648 0.579	.6532 .6528	16.591 16.581

**MONOGRAM AEROSPACE FASTENERS**  
a TriMas company  
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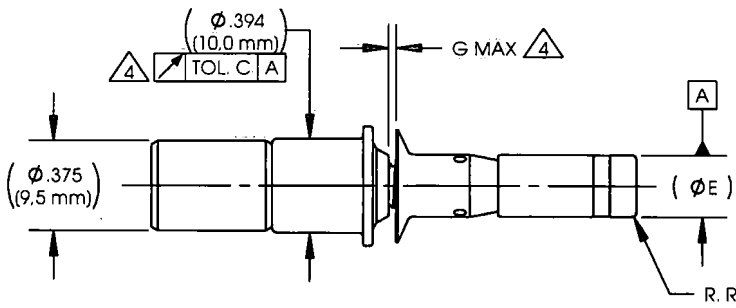
TITLE:  
**COMPO-LITE® BLIND FASTENER,  
130° FLUSH SHEAR HEAD,  
TITANIUM NUT AND SCREW**

DRAWING NO:  
**MBF2143(-)(-)(-)(-)**  
DRAWN BY: **A PEREZ** DRAWN DATE: **05/19/14**  
APPROVED BY: *J. [Signature]* CHECKED DATE: **11/22/17**  
MONOGRAM GAGE CODE: **98524** ECN NO: **17-0223** REV: **D**  
ECN DATE: **09/08/17** SHEET 1 OF 2

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APPLICABLE SPECIFICATIONS:  
 PROCUREMENT SPECIFICATION:  
 INSTALLATION AND INSPECTION SPECIFICATION:  
 SPECIAL LUBE AND FINISH:  
 PART NUMBER ASSIGNMENT:

MBF2000  
 MBF2003  
 MBF2002  
 MBF2004



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ROBOTIC PART NUMBER	R. R.		G MAX (GAP)		"TOL C"			
	INCH	mm	INCH	mm	GRIP < -500		GRIP > -500 GRIP < -1000	
					INCH	mm	INCH	mm
MBF2143( )-5-( )A	.025 .010	0.64 0.25	.042	1.07	.030	0.76	.030	0.76
MBF2143( )-6-( )A	.030 .015	0.76 0.38	.050	1.27	.027	0.69	.030	0.76
MBF2143( )-8-( )A	.035 .020	0.89 0.51	.062	1.58	.022	0.56	.030	0.76

**MATERIAL AND HEAT TREAT:**

**NUT:** TITANIUM ALLOY 6Al-4V PER AMS-T-9047 STA OR AMS4928 OR AMS4967. HEAT TREATED PER AMS-H-81200 TO 95 KSI SHEAR STRENGTH MINIMUM. MAXIMUM HYDROGEN CONTENT 125 PPM.  
**SCREW:** TITANIUM ALLOY 6Al-4V PER AMS-T-9047 STA OR AMS4928 OR AMS4967. HEAT TREATED PER AMS-H-81200 TO 95 KSI SHEAR STRENGTH MINIMUM. MAXIMUM HYDROGEN CONTENT 125 PPM.  
**SLEEVE:** CRES 304 PER AMS5639, FULLY ANNEALED.  
**INSERT:** ACETAL PER ASTM-D6778.  
**DRIVE NUT:** MILD STEEL.

**FINISH:**

**NUT:** CONVERSION COATING OR PHOSPHATE FLOURIDE PER MONOGRAM SPECIFICATION PS741 MAY BE USED AT MANUFACTURER'S OPTION.  
**SLEEVE:** PASSIVATE PER AMS2700, CONVERSION COATING OPTIONAL.  
**INSERT:** NONE  
**DRIVE NUT:** COLOR GRAY.

**LUBRICANT:**

THE FOLLOWING LUBRICANTS MAY BE APPLIED TO ANY OR ALL COMPONENTS IN ANY COMBINATION AS REQUIRED FOR PERFORMANCE: GRAPHITE FREE SOLID FILM LUBRICANT PER AS5272 OR EVERLUBE 812 PER MIL-PRF-81329, PARAFFIN WAX AND/OR CETYL ALCOHOL PER AS87132.

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2ND DASH NO. (GRIP)	GRIP RANGE			
	MIN GRIP		MAX GRIP	
	INCH	mm	INCH	mm
100	.050	1.27	.100	2.54
150	.100	2.54	.150	3.81
200	.150	3.81	.200	5.08
250	.200	5.08	.250	6.35
300	.250	6.35	.300	7.62
350	.300	7.62	.350	8.89
400	.350	8.89	.400	10.16
450	.400	10.16	.450	11.43
500	.450	11.43	.500	12.70
550	.500	12.70	.550	13.97
600	.550	13.97	.600	15.24
650	.600	15.24	.650	16.51
700	.650	16.51	.700	17.78
750	.700	17.78	.750	19.05
800	.750	19.05	.800	20.32
850	.800	20.32	.850	21.59
900	.850	21.59	.900	22.86
950	.900	22.86	.950	24.13
1000	.950	24.13	1.000	25.40
1050	1.000	25.40	1.050	26.67
1100	1.050	26.67	1.100	27.94
1150	1.100	27.94	1.150	29.21
1200	1.150	29.21	1.200	30.48
1250	1.200	30.48	1.250	31.75
1300	1.250	31.75	1.300	33.02
1350	1.300	33.02	1.350	34.29
1400	1.350	34.29	1.400	35.56
1450	1.400	35.56	1.450	36.83
1500	1.450	36.83	1.500	38.10
1550	1.500	38.10	1.550	39.37
1600	1.550	39.37	1.600	40.64
1650	1.600	40.64	1.650	41.91
1700	1.650	41.91	1.700	43.18

**GENERAL NOTES:**

- EXAMPLE OF PART NUMBER:  
 MBF2143 ( ) - 6 - 100 ( )  
 "A" DESIGNATES DUAL DRIVE NUT SYSTEM FOR ROBOTIC INSTALLATION  
 DESIGNATES GRIP (SEE TABLE III)  
 DESIGNATES BASIC DIMENSIONS (SEE TABLE I)  
 DESIGNATES SPECIAL FINISH CODE (SEE MBF2002)  
 DESIGNATES BASIC PART NUMBER
- LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT AND APPROXIMATELY .040" ABOVE INTERSECTION OF THE NUT NOSE ANGLE AND O.D.
- DISTORTION OF "ØD" PERMISSIBLE IN LOCKING AREA. DISTORTION SHALL NOT PREVENT INSERTION OF THE FASTENER INTO A RING GAUGE OF LENGTH EQUAL TO ONE DIAMETER AND HOLE DIAMETER EQUAL TO A MINIMUM RECOMMENDED HOLE. FORCE FOR INSERTION SHALL NOT EXCEED 5.0 POUNDS.
- MAXIMUM RUNOUT FROM DRIVE NUT TO SCREW HEAD WHEN DRIVE NUT IS FULLY SEATED (G=0) FOR GRIPS UNDER/EQUAL -1000. FOR GRIPS LONGER THAN -1000 "TOL C" TBD.
- ALL OTHER DIMENSION ARE THE SAME AS IN TABLE I.
- STANDARD GRIP LENGTHS ARE SHOWN IN TABLE III. INTERMEDIATE GRIP LENGTHS MAY BE AVAILABLE UPON REQUEST. EXAMPLE: 2ND DASH NO. 225 SHALL HAVE MIN. GRIP .125 (3.175 mm) AND MAX GRIP .225 (5.715 mm).
- DRIVE NUT NOT SHOWN FOR CLARITY OF HEAD MARKINGS.
- GRIP DASH NUMBER MARKING LOCATED ON TOP OR SIDE OF DRIVE NUT.



TITLE:  
**COMPOSI-LITE® BLIND FASTENER,  
 130° FLUSH SHEAR HEAD,  
 TITANIUM NUT AND SCREW**

DRAWING NO: <b>MBF2143( )-( )-( )-( )</b>	
DRAWN BY: <b>A PEREZ</b>	DRAWN DATE: <b>05/19/14</b>
APPROVED BY: <i>J. Brown</i>	CHECKED DATE: <b>06/21/17</b>
MONOGRAM CAGE CODE: <b>98524</b>	ECN NO: <b>17-0223</b> ECN DATE: <b>09/08/17</b>
	<b>D</b> SHEET 2 OF 2

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