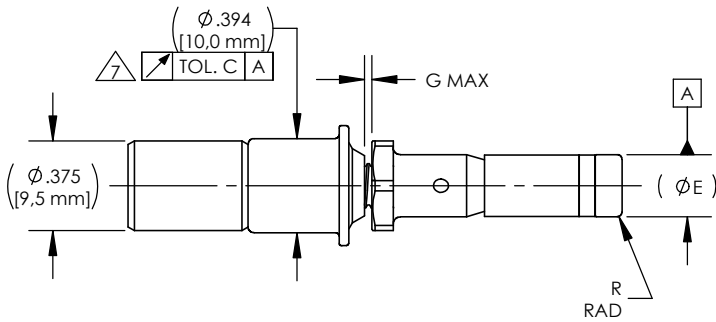



PART NUMBER	A HEX ACROSS FLATS		ØB MIN		ØD		ØE MAX		F WRENCH FLATS		(G)		H		(L)		R RAD MAX		(T HEX ACROSS FLATS)	
	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm
MBF3004-5-( )	.250 .244	6.35 6.20	.272	6.91	.1645 .1625	4.178 4.128	.1640	4.166	.085 .080	2.16 2.03	.058	1.47	.076 .069	1.93 1.75	.625	15.875	.030	0.76	.375	9.52
MBF3004-6-( )	.312 .305	7.92 7.75	.340	8.64	.1985 .1965	5.042 4.991	.1985	5.042	.113 .108	2.87 2.74	.058	1.47	.080 .073	2.03 1.85	.675	17.145	.030	0.76	.375	9.52
MBF3004-7-( )	.343 .336	8.71 8.53	.375	9.52	.2275 .2255	5.778 5.728	.2275	5.778	.121 .116	3.07 2.95	.058	1.47	.080 .073	2.03 1.85	.862	21.894	.030	0.76	.375	9.52
MBF3004-8-( )	.375 .367	9.52 9.32	.409	10.39	.2595 .2575	6.591 6.541	.2595	6.591	.135 .130	3.43 3.30	.058	1.47	.090 .083	2.29 2.11	.900	22.860	.030	0.76	.375	9.52
MBF3004-9-( )	.406 .398	10.31 10.11	.444	11.28	.2895 .2875	7.353 7.303	.2895	7.353	.152 .147	3.86 3.73	.068	1.73	.090 .083	2.29 2.11	.930	23.622	.030	0.76	.500	12.70
MBF3004-10-( )	.437 .429	11.10 10.90	.479	12.17	.3115 .3095	7.912 7.861	.3110	7.899	.152 .147	3.86 3.73	.073	1.85	.112 .105	2.85 2.67	.912	23.164	.040	1.02	.500	12.70
MBF3004-11-( )	.468 .460	11.89 11.68	.513	13.03	.3435 .3415	8.725 8.674	.3433	8.720	.185 .180	4.70 4.57	.078	1.98	.112 .105	2.85 2.67	1.000	25.400	.040	1.02	.500	12.70
MBF3004-12-( )	.500 .491	12.70 12.47	.548	13.92	.3745 .3725	9.512 9.462	.3740	9.500	.185 .180	4.70 4.57	.083	2.11	.133 .126	3.38 3.20	1.100	27.940	.040	1.02	.500	12.70

PART NUMBER	MIN AVAILABLE GRIP DASH NO.	INSTALLED DIMENSIONS								MECHANICAL PROPERTIES					
		RECOM. HOLE SIZE		ØJ 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
MBF3004-5-( )	-100	.168 .165	4.27 4.19	.250	6.35	.370	9.40	+1.103 -0.000	+2.62 -0.00	900	4000	3150	14010	1.0	0.113
MBF3004-6-( )	-100	.202 .199	5.13 5.05	.300	7.62	.420	10.67	+1.103 -0.000	+2.62 -0.00	1400	6230	4600	20460	1.5	0.170
MBF3004-7-( )	-100	.231 .228	5.88 5.79	.350	8.89	.490	12.45	+1.103 -0.000	+2.62 -0.00	1600	7120	6050	26910	2.0	0.226
MBF3004-8-( )	-100	.263 .260	6.68 6.60	.400	10.16	.510	12.95	+1.103 -0.000	+2.62 -0.00	2100	9340	7900	35140	2.5	0.282
MBF3004-9-( )	-100	.293 .290	7.44 7.37	.450	11.43	.535	13.59	+1.103 -0.000	+2.62 -0.00	2600	11565	9800	43590	3.0	0.339
MBF3004-10-( )	-150	.315 .312	8.00 7.92	.475	12.06	.540	13.72	+1.103 -0.000	+2.62 -0.00	3600	16010	11350	50480	3.5	0.400
MBF3004-11-( )	-150	.347 .344	8.81 8.74	.525	13.33	.670	17.02	+1.103 -0.000	+2.62 -0.00	4400	19570	13850	61600	4.0	0.452
MBF3004-12-( )	-150	.378 .375	9.60 9.52	.565	14.35	.675	17.15	+1.103 -0.000	+2.62 -0.00	5000	22240	16450	73170	4.5	0.508

APPLICABLE SPECIFICATIONS:  
 PROCUREMENT SPECIFICATION: MBF2008  
 INSTALLATION AND INSPECTION SPECIFICATION: MBF2009  
 SPECIAL LUBE AND FINISH: MBF2002  
 PART NUMBER ASSIGNMENT: MBF2004



ROBOTIC PART NUMBER	R RAD		G MAX (GAP)		"TOL. C" 			
	INCH	mm	INCH	mm	GRIP < -500		GRIP > -500	
					INCH	mm	INCH	mm
MBF3004( )-5-( ) A	.030 .010	0.762 0.254	.042	1.067	.030	0.762	.030	0.762
MBF3004( )-6-( ) A	.035 .015	0.889 0.381	.050	1.270	.027	0.686	.030	0.762
MBF3004( )-7-( ) A	.035 .015	0.889 0.381	.055	1.397	.025	0.635	.030	0.762
MBF3004( )-8-( ) A	.040 .020	1.016 0.508	.062	1.575	.022	0.559	.030	0.762
MBF3004( )-9-( ) A	.040 .020	1.016 0.508	.071	1.803	.022	0.559	.030	0.762

**MATERIAL AND HEAT TREAT:**

NUT: 6Al-4V TITANIUM ALLOY 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: A286 CRES PER AMS5731, AMS5732 OR AMS5737 HEAT TREATED TO 175 KSI TENSILE MINIMUM.  
 SLEEVE: 304 STAINLESS STEEL PER AMS5639, FULLY ANNEALED.  
 INSERT: ACETAL PER ASTM-D6778  
 DRIVE NUT: MILD STEEL

**FINISH:**

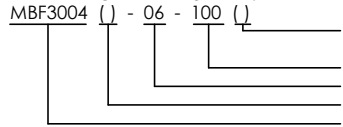



(-) NUT: CONVERSION COATING OR PHOSPHATE FLOURIDE PER MONOGRAM SPECIFICATION PS741, MAY BE USED AT MANUFACTURER'S OPTION.  
 SLEEVE AND SCREW: PASSIVATE PER AMS2700, CONVERSION COATING OPTIONAL.  
 INSERT: NONE  
 DRIVE NUT: COLOR BROWN

**LUBRICANT:**

GRAPHITE FREE SOLID FILM LUBRICANT PER AS5272 OR MIL-PRF-81329, PARAFFIN WAX, OR CETYL ALCOHOL PER AS87132 (AS REQUIRED FOR PERFORMANCE).

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:  
 MBF3004 ( ) - 06 - 100 ( )  

  - "A" DESIGNATES DUAL DRIVE NUT SYSTEM FOR ROBOTIC INSTALLATION
  - "LD" DESIGNATES LESS DRIVE NUT (FOR INTERNAL PROCESSING ONLY)
  - DESIGNATES GRIP (TABLE III)
  - DESIGNATES BASIC DIMENSIONS (TABLE I)
  - DESIGNATES SPECIAL FINISH CODE
  - 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.
- SEE MBF2009 FOR INSTALLATION AND REMOVAL INFORMATION.
- THESE PARTS ARE SIMILAR TO MBF2111 EXCEPT AS FOLLOWS:
  - A. IMPROVED OUT-OF-GRIP FLAGGING CAPABILITY (COREBOLT B/O)
  - B. INCREASED BLIND SIDE PROTRUSION BEFORE AND AFTER UPSET
  - C. INCREASED INSTALLED WEIGHT
-  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.
-  HEAD MARKINGS: MANUFACTURER'S IDENTIFICATION: MONOGRAM = "M"  
 FASTENER IDENTIFICATION = "3004"  
 POSITION OPTIONAL
-  MAXIMUM CONCENTRICITY (T.I.R.) 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.



3423 SOUTH GARFIELD AVENUE  
 COMMERCE, CALIFORNIA 90040  
 (323) 722-4760 FAX (323) 727-1029

TITLE:

BLIND FASTENER, REDUCED PROTRUDING HEX HEAD  
 FOR ADVANCED COMPOSITE MATERIALS  
 TITANIUM

DRAWING NO:

MBF3004( )-( )-( )

DRAWN BY:

M. DOMINGUEZ

DRAWN DATE:

08/15/13

APPROVED BY:

CHECKED DATE:

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MONOGRAM

CAGE CODE:

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ECN NO:

17-0240

ECN DATE:

09/11/17

REV:

V

SHEET 2 OF 2