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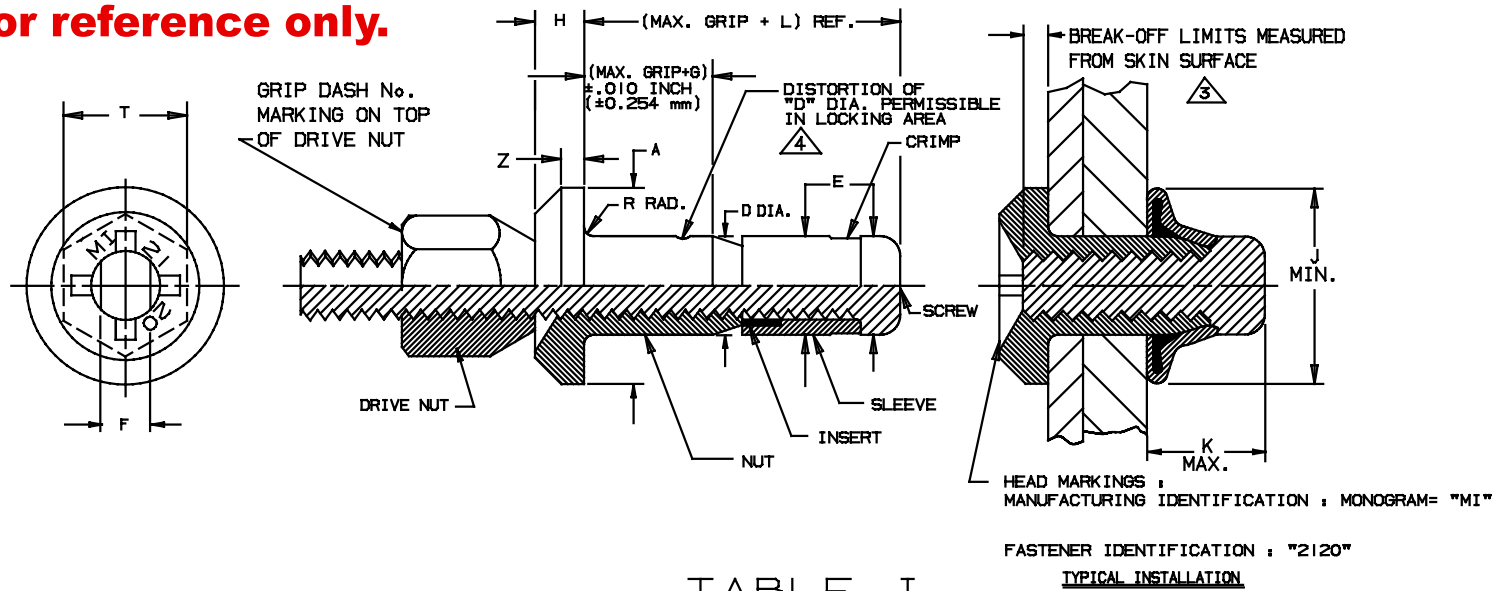


TABLE I

PART NUMBER	A DIA.		D DIA.		E DIA. MAX.		F WRENCH FLATS		G REF.		H		L REF.		R RAD. MAX.		T ACROSS HEX. REF.		Z MAX.	
	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm	INCH	mm
MBF2120-5-()	.359 .329	9,119 8,357	.1645 .1625	4,178 4,128	.1640	4,166	.085 .080	2,16 2,03	.017	0,43	.060 .053	1,524 1,346	.512	13,00	.030	0,76	.375	9,52	.030	0,762
MBF2120-6-()	.421 .391	10,693 9,931	.1985 .1965	5,042 4,991	.1985	5,042	.113 .108	2,87 2,74	.027	0,68	.070 .063	1,778 1,600	.575	14,61	.030	0,76	.375	9,52	.030	0,762
MBF2120-7-()	.421 .391	10,093 9,931	.2275 .2255	5,778 5,728	.2275	5,778	.121 .116	3,07 2,95	.035	0,89	.070 .063	1,778 1,600	.635	16,13	.030	0,76	.375	9,52	.030	0,762
MBF2120-8-()	.546 .516	13,868 13,106	.2595 .2575	6,591 6,541	.2595	6,591	.135 .130	3,43 3,30	.055	1,40	.085 .078	2,159 1,981	.700	17,78	.030	0,76	.375	9,52	.040	1,016
MBF2120-9-()	.546 .516	13,868 13,106	.2895 .2875	7,353 7,303	.2895	7,353	.152 .147	3,86 3,73	.065	1,65	.085 .078	2,159 1,981	.815	20,70	.030	0,76	.500	12,70	.040	1,016
MBF2120-10-()	.640 .610	16,256 15,494	.3115 .3095	7,912 7,861	.3110	7,899	.152 .147	3,86 3,73	.070	1,78	.105 .098	2,667 2,489	.892	22,66	.040	1,02	.500	12,70	.045	1,143
MBF2120-11-()	.640 .610	16,256 15,494	.3435 .3415	8,725 8,674	.3433	8,720	.185 .180	4,70 4,57	.075	1,90	.105 .098	2,667 2,489	.941	23,90	.040	1,02	.500	12,70	.045	1,143
MBF2120-12-()	.765 .735	19,431 18,669	.3745 .3725	9,512 9,462	.3740	9,500	.185 .180	4,70 4,57	.080	2,03	.125 .118	3,175 2,997	1.090	27,69	.040	1,02	.500	12,70	.045	1,143

TABLE I (CONT)

PART NUMBER	MINIMUM AVAILABLE GRIP LENGTH	INSTALLED DIMENSIONS						MECHANICAL PROPERTIES							
		RECOMMENDED HOLE SIZE		J DIA. MIN.		K MAX.		BREAK-OFF LIMITS $\Delta$		TENSILE STRUCTURAL FAILURE (MIN.)		DOUBLE SHEAR MIN.		LOCKING TORQUE MIN.	
		INCH	mm	INCH	mm	INCH	mm	INCH	mm	LBS.	N	LBS.	N	IN-LBS	Nm
MBF2120-5-()	-100	.169 .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
MBF2120-6-()	-100	.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
MBF2120-7-()	-100	.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
MBF2120-8-()	-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
MBF2120-9-()	-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
MBF2120-10-()	-150	.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
MBF2120-11-()	-150	.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
MBF2120-12-()	-150	.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

U.S. PATENT NO. 3643544, 4747202 & 4967463  
 EUROPEAN PATENT NO. 0152531 & 0216980

**MONOGRAM**  
 CODE IDENT. NO.  
 98524

APPROVED DATE 01-03-84 ECN# 3708	NOTICE: THIS DRAWING IS PART OF THE PROPRIETARY ARTICLE HEREIN DISCLOSED. OWNED BY MONOGRAM AEROSPACE FASTENERS, ANY PARTY BY ACCEPTING THIS DOCUMENT ASSUMES CUSTODY THEREOF AND AGREES: A. THE INFORMATION SET FORTH HEREIN IS GIVEN IN CONFIDENCE AND THIS DOCUMENT WILL NOT BE COPIED OR REPRODUCED IN WHOLE OR IN PART, NOR ITS CONTENTS REVEALED IN ANY MANNER TO ANY PERSON EXCEPT TO THE EXTENT NECESSARY FOR THE PURPOSE FOR WHICH IT WAS DELIVERED. B. WITHOUT THE WRITTEN CONSENT OF MONOGRAM AEROSPACE FASTENERS, THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN UNDER NO CIRCUMSTANCES WILL BE USED IN THE MANUFACTURE OR REPRODUCTION OF THE ARTICLE DISCLOSED, AND DELIVERY OF THIS DOCUMENT SHALL NOT CONSTITUTE ANY RIGHT OR LICENSE TO DO SO.	TITLE BLIND FASTENER LOW PROFILE PROTRUDING HEAD FOR ADVANCED COMPOSITE MATERIALS A-286 CRES	STANDARD MBF 2120 SHEET 1 OF 2
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MONOGRAM AEROSPACE FASTENERS  
3423 SOUTH GARFIELD AVENUE  
LOS ANGELES, CALIFORNIA 90040



APPLICABLE SPECIFICATIONS:

PROCUREMENT SPECIFICATION: MBF 2000.  
SPECIAL LUBE AND FINISH CODES: MBF 2002.  
INSTALLATION & INSPECTION SPECIFICATION: MBF 2003.  
PART NUMBER ASSIGNMENT: MBF 2005.

MATERIAL AND HEAT TREAT:

NUT: A-286 STAINLESS STEEL PER CHEMICAL REQUIREMENTS OF AMS 5731, AMS 5732, AMS 5734 AND AMS 5737. HEAT TREATED AS REQUIRED FOR PERFORMANCE.  
SCREW: A-286 PER THE CHEMICAL REQUIREMENTS OF AMS 5731, AMS 5732, AMS 5734 AND AMS 5737. HEAT TREATED AS REQUIRED FOR PERFORMANCE.  
SLEEVE: 304 STAINLESS STEEL PER AMS 5639, HEAT TREATED AS REQUIRED FOR PERFORMANCE.  
INSERT: ACETAL PER ASTM D4181.  
DRIVE NUT: MILD STEEL.

FINISH:

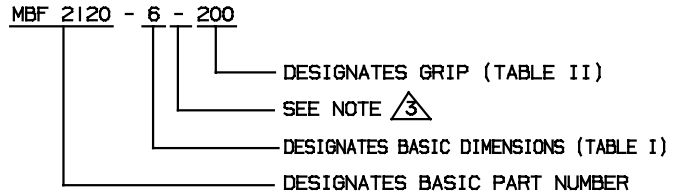
NUT, SLEEVE & SCREW: PASSIVATE PER QQ-P-35. KAL-GARD ANN-RO #1013, CONVERSION COATING OPTIONAL.  
INSERT: NONE.  
DRIVE NUT: CORROSION RESISTANT COATING COLOR BLACK.

LUBRICANTS:

DRY FILM LUBE PER MIL-L-46010 TYPE I OR EVERLUBE #812 PER MIL-L-81329, PARAFFIN WAX, OR CETYL ALCOHOL PER MIL-L-87132.

GENERAL NOTES:

1.) EXAMPLE OF PART NUMBER:



2.) LOCKING FEATURE CONSISTS OF THREE (3) INDENTATIONS LOCATED 120° APART ON THE PERIPHERY OF THE NUT COMPONENT AND APPROXIMATELY .040 ABOVE THE INTERSECTION OF THE NUT NOSE ANGLE AND O.D.

3. AN "L" IN PLACE OF THE DASH (-) BETWEEN THE DIAMETER DASH NUMBER AND THE GRIP DASH NUMBER DESIGNATES MODIFIED BREAK-OFF LIMITS OF +.053/-.050. \*e.g. MBF 2120(L)-6L200\*.

4. DISTORTION SHALL NOT PREVENT INSERTION OF THE FASTENER INTO A RING GAUGE OF LENGTH EQUAL TO ONE DIAMETER AND DIAMETER EQUAL TO MINIMUM RECOMMENDED HOLE. FORCE FOR INSERTION SHALL NOT EXCEED 5.0 POUNDS.

TABLE II

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

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EUROPEAN PATENT NO. 0152531 & 0216980

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APPROVED DATE  
01-03-84 ECN# 3708

REV. LETTER & DATE  
ECN # 1167  
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TITLE

BLIND FASTENER LOW PROFILE PROTRUDING HEAD  
FOR ADVANCED COMPOSITE MATERIALS  
A-286 CRES

STANDARD

MBF 2120  
SHEET 2 OF 2