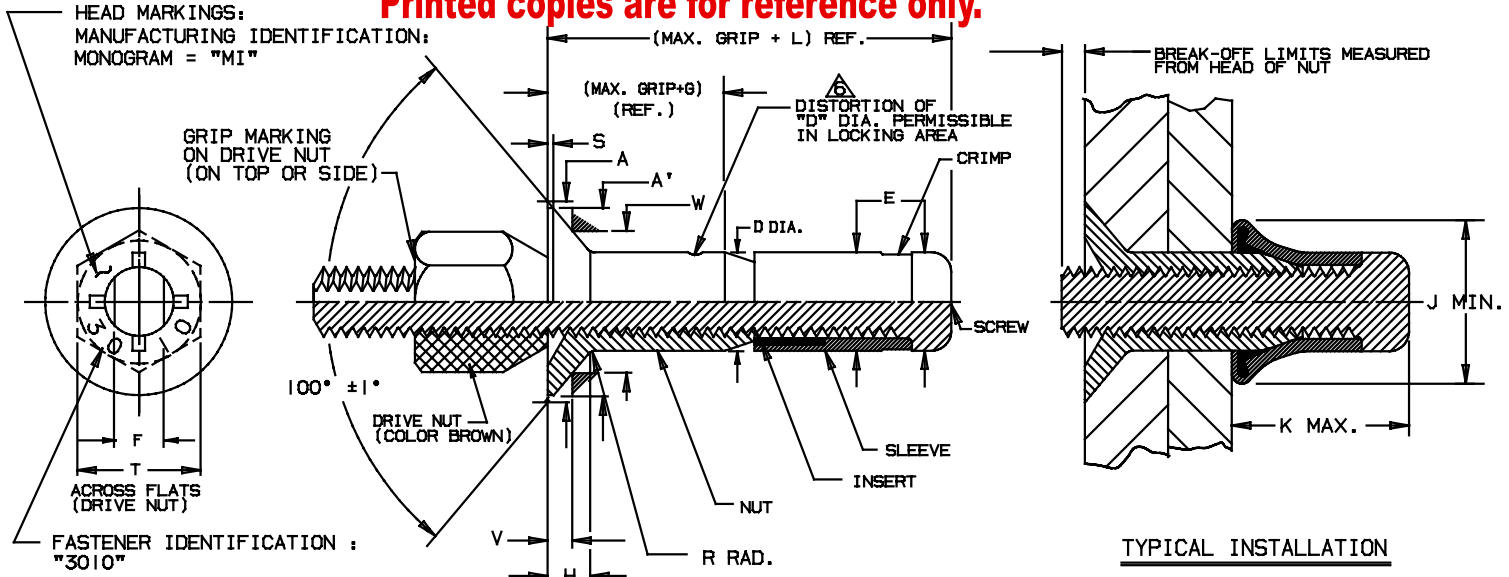


Printed copies are for reference only.



| PART NUMBER | A DIA. REF. | | A* DIA. MIN. | | D DIA. | | E DIA. MAX. | | F WRENCH FLATS | | G REF. | | H REF. | | L REF. | | R RAD. MAX. | | S MAX. | | T ACROSS HEX. REF. | |
|---------------|--------------|----------------|--------------|-------|----------------|----------------|-------------|-------|----------------|--------------|--------|------|--------|------|--------|-------|-------------|------|--------|------|--------------------|-------|
| | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm | INCH | mm |
| MBF3010-5-() | .332 .325 | 8,43 8,25 | .296 | 7,52 | .1645 .1625 | 4,178 4,128 | .1640 | 4,166 | .085 .080 | 2,16 2,03 | .058 | 1,47 | .070 | 1,78 | .625 | 15,87 | .030 | 0,76 | .015 | 0,38 | .375 | 9,52 |
| MBF3010-6-() | .395 .378 | 9,78 9,60 | .342 | 8,69 | .1985 .1965 | 5,042 4,991 | .1985 | 5,042 | .113 .108 | 2,87 2,74 | .058 | 1,47 | .077 | 1,96 | .675 | 17,14 | .030 | 0,76 | .019 | 0,48 | .375 | 9,52 |
| MBF3010-7-() | .416 .409 | 10,57 10,39 | .373 | 9,47 | .2275 .2255 | 5,778 5,728 | .2275 | 5,778 | .121 .116 | 3,07 2,95 | .058 | 1,47 | .077 | 1,96 | .862 | 21,94 | .030 | 0,76 | .020 | 0,51 | .375 | 9,52 |
| MBF3010-8-() | .507 .499 | 12,88 12,67 | .463 | 11,76 | .2595 .2575 | 6,591 6,541 | .2595 | 6,591 | .135 .130 | 3,43 3,30 | .058 | 1,47 | 1,04 | 2,64 | .900 | 22,86 | .030 | 0,76 | .020 | 0,51 | .375 | 9,52 |
| MBF3010-9-() | .538 .530 | 13,66 13,46 | .494 | 12,55 | .2895 .2875 | 7,353 7,303 | .2895 | 7,353 | .152 .147 | 3,86 3,73 | .068 | 1,73 | 1,04 | 2,64 | .930 | 23,62 | .030 | 0,76 | .020 | 0,51 | .500 | 12,70 |
| MBF3010-10-() | .635 .626 | 16,13 15,90 | .577 | 14,66 | .3115 .3095 | 7,912 7,861 | .3110 | 7,899 | .152 .147 | 3,86 3,73 | .073 | 1,85 | .136 | 3,45 | .912 | 23,16 | .040 | 1,02 | .026 | 0,66 | .500 | 12,70 |
| MBF3010-11-() | .666 .657 | 16,92 16,69 | .608 | 15,44 | .3435 .3415 | 8,725 8,674 | .3433 | 8,720 | .185 .180 | 4,70 4,57 | .078 | 1,98 | .136 | 3,45 | 1,000 | 25,40 | .040 | 1,02 | .026 | 0,66 | .500 | 12,70 |
| MBF3010-12-() | .762 .752 | 19,35 19,10 | .696 | 17,68 | .3745 .3725 | 9,512 9,462 | .3740 | 9,500 | .185 .180 | 4,70 4,57 | .083 | 2,11 | .162 | 4,11 | 1,100 | 27,94 | .040 | 1,02 | .029 | 0,74 | .500 | 12,70 |

TABLE I (CONT)

| PART NUMBER | MINIMUM AVAILABLE GRIP DASH NO. | INSTALLED DIMENSIONS | | | | | | MECHANICAL PROPERTIES | | | | | | | | | | | |
|---------------|---------------------------------|-----------------------|--------------|-------------|-------|--------|-------|-----------------------|----------------|----------------------------------|-------|-------------------|-------|---------------------|-------|----------------|----------------|----------------|------------------|
| | | RECOMMENDED HOLE SIZE | | J DIA. MIN. | | K MAX. | | BREAK-OFF LIMITS | | TENSILE STRUCTURAL FAILURE(MIN.) | | DOUBLE SHEAR MIN. | | LOCKING TORQUE MIN. | | V GAGE PROT. | | W GAGE DIA. | |
| | | INCH | mm | INCH | mm | INCH | mm | INCH | mm | LBS. | N | LBS. | N | IN-LBS | N-m | INCH | mm | INCH | mm |
| MBF3010-5-() | -150 | .168 .165 | 4,27 4,19 | .250 | 6,35 | .370 | 9,40 | +.103 -.000 | +2,62 -0,00 | 900 | 4000 | 3150 | 14010 | 1.0 | 0,113 | .0207 .0174 | 0,526 0,442 | .2832 .2630 | 7,193 6,188 |
| MBF3010-6-() | -150 | .202 .199 | 5,13 5,05 | .300 | 7,62 | .420 | 10,67 | | | 1400 | 6230 | 4600 | 20460 | 1.5 | 0,170 | .0245 .0212 | 0,622 0,536 | .3272 .3270 | 8,311 8,306 |
| MBF3010-7-() | -150 | .231 .228 | 5,88 5,79 | .350 | 8,89 | .490 | 12,45 | | | 1600 | 7120 | 6050 | 26910 | 2.0 | 0,226 | .0358 .0324 | 0,909 0,823 | .3315 .3313 | 8,420 8,415 |
| MBF3010-8-() | -200 | .263 .260 | 6,68 6,60 | .400 | 10,16 | .510 | 12,95 | | | 2100 | 9340 | 7900 | 35140 | 2.5 | 0,282 | .0318 .0279 | 0,808 0,709 | .4320 .4318 | 10,973 10,968 |
| MBF3010-9-() | -200 | .293 .290 | 7,44 7,37 | .450 | 11,43 | .535 | 13,59 | | | 2600 | 11565 | 9800 | 43590 | 3.0 | 0,339 | .0441 .0407 | 1,120 1,034 | .4320 .4318 | 10,973 10,968 |
| MBF3010-10-() | -250 | .315 .312 | 8,00 7,92 | .475 | 12,06 | .540 | 13,72 | | | 3600 | 16010 | 11350 | 50480 | 3.5 | 0,400 | .0405 .0365 | 1,029 0,927 | .5389 .5385 | 13,688 13,678 |
| MBF3010-11-() | -250 | .347 .344 | 8,81 8,74 | .525 | 13,33 | .670 | 17,02 | | | 4400 | 19570 | 13850 | 61600 | 4.0 | 0,452 | .0539 .0500 | 1,369 1,270 | .5389 .5385 | 13,688 13,678 |
| MBF3010-12-() | -250 | .378 .375 | 9,60 9,52 | .575 | 14,60 | .675 | 17,15 | | | 5000 | 22240 | 16450 | 73170 | 4.0 | 0,452 | .0458 .0415 | 1,183 1,054 | .6532 .6528 | 16,591 16,581 |

U.S. PATENT NO. 4747202, 4772167 AND 4967463
 EUROPEAN PATENT NO. 0152531 & 0244783

MONOGRAM
 CODE IDENT. NO.
 98524

| | | | |
|--|--|--|--------------------------------------|
| APPROVED DATE ECN #5218 01-05-88 | 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 WHOM ITS CONTENTS REVEALED IN ANY MANNER TO ANY PERSON EXCEPT TO WHOM 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 100° FLUSH HEAD FOR ADVANCED COMPOSITE MATERIAL CRES | STANDARD MBF 3010 SHEET 1 OF 2 |
|--|--|--|--------------------------------------|

PROCUREMENT SPECIFICATION: MBF 2008.
 INSTALLATION & INSPECTION SPECIFICATION : MBF 2009.
 SPECIAL LUBRICANT & FINISH CODES : MBF 2002.
 MATERIAL AND HEAT TREAT: NUT: A-286 STAINLESS STEEL PER CHEMICAL REQUIREMENTS OF AMS 5732. HEAT TREATED AS REQUIRED FOR PERFORMANCE.
 SCREW: A-286 PER AMS 5731, AMS 5732 OR AMS 5737 HEAT TREATED TO 175 KSI TENSILE MINIMUM.
 SLEEVE: 304 STAINLESS STEEL PER AMS 5639 FULLY ANNEALED.
 INSERT: ACETAL PER ASTM D4181.
 DRIVE NUT: MILD STEEL.
 FINISH: NUT, SLEEVE & SCREW : PASSIVATE PER QQ-P-35 KAL GARD CONVERSION COATING ANN-RO #1013 OPTIONAL.
 INSERT: NONE.
 DRIVE NUT : COLOR BROWN.
 LUBRICANT: DRY FILM LUBRICANT PER MIL-L-46010 TYPE I, CETYL ALCOHOL PER MIL-L-87132, AND/OR PARAFFIN WAX. (OPTIONAL AS REQUIRED FOR PERFORMANCE).

GENERAL NOTES:

1.) EXAMPLE OF PART NUMBER:

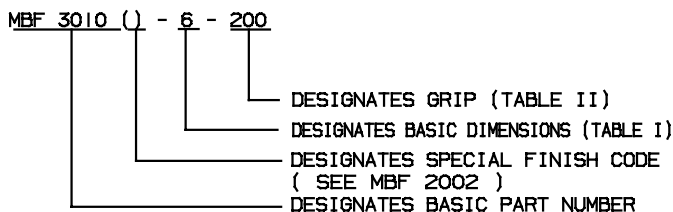


TABLE II

| 2ND DASH NO. (GRIP) | GRIP RANGE | | | |
|---------------------|------------|-------|-----------|-------|
| | MIN. GRIP | | MAX. GRIP | |
| | INCH | mm | INCH | mm |
| 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 |

- 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.) SEE MBF 2009 FOR INSTALLATION AND REMOVAL INFORMATION.
- 4.) COMPOSI-LOK FASTENERS WITH SELECTED COMBINATIONS OF THE ABOVE LUBRICANTS AND FINISHES ARE SPECIALLY CODED AND MAY BE SUBSTITUTED FOR EQUIVALENT NON-CODED PARTS AT MANUFACTURER'S OPTION. SEE INTERCHANGEABILITY SPECIFICATION MBF 2007.
- 5.) THESE PARTS ARE SIMILAR TO MBF 2122 EXCEPT AS FOLLOWS :
 - A.) IMPROVED OUT-OF-GRIP FLAGGING CAPABILITY (SCREW B/O).
 - B.) INCREASED BLIND SIDE PROTRUSION BEFORE AND AFTER UPSET.
 - C.) INCREASED INSTALLED WEIGHT.
6. 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 SIZE. FORCE FOR INSERTION SHALL NOT EXCEED 5.0 POUNDS.

U.S. PATENT NO. 4747202, 4772167 AND 4967463
 EUROPEAN PATENT NO. 0152531 & 0244783

MONOGRAM

CODE IDENT. NO.
 98524

| | |
|--|---|
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| REV. LETTER & DATE ECN # 1167 "M" 11-14-01 | |

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|--|
| TITLE BLIND FASTENER 100° FLUSH HEAD FOR ADVANCED COMPOSITE MATERIAL CRES |
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|--------------------------------------|
| STANDARD MBF 3010 SHEET 2 OF 2 |
|--------------------------------------|