

**Printed copies are
 for reference only.**

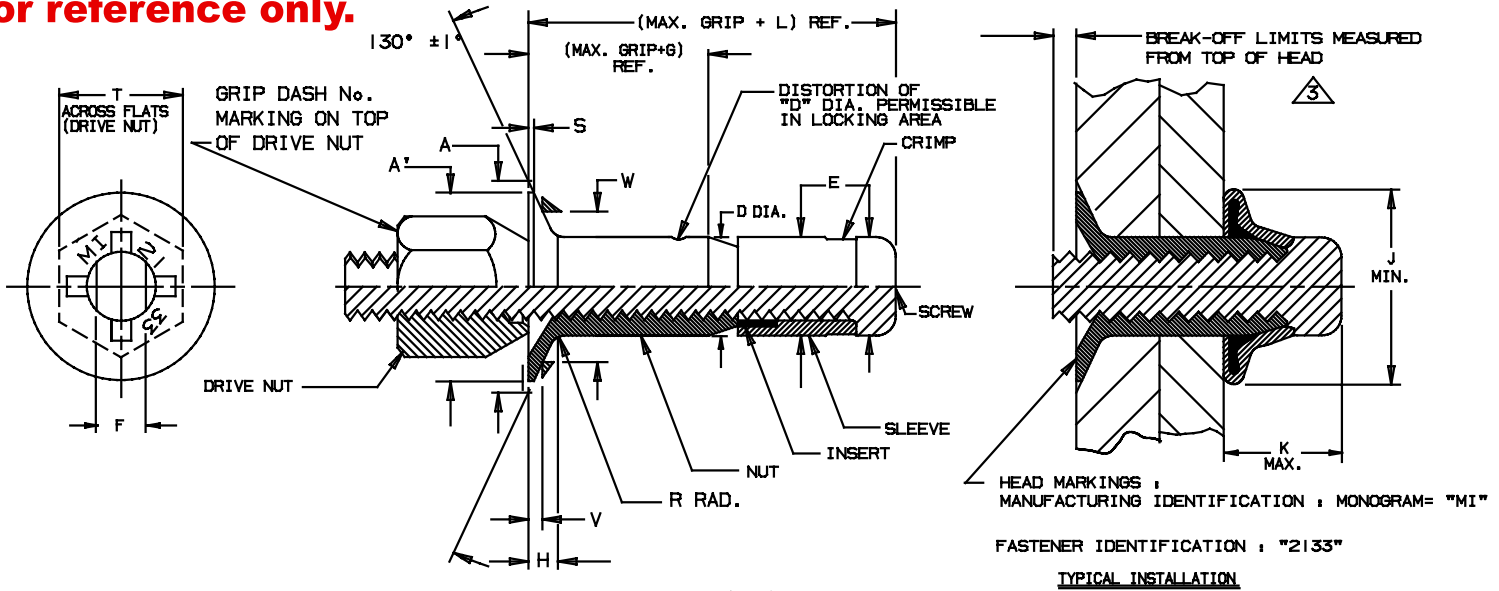


TABLE I

| PART NUMBER | A DIA. THEO. | | 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 |
| MBF2133-5-() | .332 .325 | 8,433 8,255 | .296 | 7,52 | .167 .166 | 4,24 4,21 | .1640 | 4,166 | .085 .080 | 2,16 2,03 | .017 | 0,43 | .039 | 0,99 | .512 | 13,00 | .030 | 0,76 | .009 | 0,229 | .375 | 9,52 |
| MBF2133-6-() | .395 .378 | 9,779 9,601 | .342 | 8,69 | .201 .200 | 5,11 5,08 | .1985 | 5,042 | .113 .108 | 2,87 2,74 | .027 | 0,68 | .043 | 1,09 | .575 | 14,61 | .030 | 0,76 | .011 | 0,279 | .375 | 9,52 |
| MBF2133-7-() | .416 .409 | 10,566 10,389 | .373 | 9,47 | .230 .229 | 5,84 5,81 | .2275 | 5,778 | .121 .116 | 3,07 2,95 | .035 | 0,89 | .043 | 1,09 | .635 | 16,13 | .030 | 0,76 | .011 | 0,279 | .375 | 9,52 |
| MBF2133-8-() | .507 .499 | 12,878 12,675 | .463 | 11,76 | .262 .261 | 6,63 6,63 | .2595 | 6,591 | .135 .130 | 3,43 3,30 | .055 | 1,40 | .057 | 1,45 | .700 | 17,78 | .030 | 0,76 | .011 | 0,279 | .375 | 9,52 |
| MBF2133-9-() | .538 .530 | 13,665 13,462 | .494 | 12,55 | .292 .291 | 7,42 7,39 | .2895 | 7,353 | .152 .147 | 3,86 3,73 | .065 | 1,65 | .057 | 1,45 | .815 | 20,70 | .030 | 0,76 | .011 | 0,279 | .500 | 12,70 |
| MBF2133-10-() | .635 .626 | 16,129 15,900 | .577 | 14,66 | .314 .313 | 7,98 7,95 | .3110 | 7,899 | .152 .147 | 3,86 3,73 | .070 | 1,78 | .075 | 1,90 | .892 | 22,66 | .040 | 1,02 | .014 | 0,356 | .500 | 12,70 |
| MBF2133-11-() | .666 .657 | 16,916 16,688 | .608 | 15,44 | .346 .345 | 8,79 8,76 | .3433 | 8,720 | .185 .180 | 4,70 4,57 | .075 | 1,90 | .074 | 1,88 | .941 | 23,90 | .040 | 1,02 | .015 | 0,381 | .500 | 12,70 |
| MBF2133-12-() | .782 .752 | 19,355 18,101 | .696 | 17,68 | .377 .376 | 9,58 9,55 | .3740 | 9,500 | .185 .180 | 4,70 4,57 | .080 | 2,03 | .089 | 2,26 | 1,090 | 27,69 | .040 | 1,02 | .016 | 0,406 | .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 Δ | | TENSILE STRUCTURAL FAILURE (MIN.) Δ | | 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 | Nm | INCH | mm | INCH | mm |
| MBF2133-5-() | -150 | .166 .165 | 4,22 4,19 | .250 | 6,35 | .300 | 7,62 | +.103 -.000 | +2,62 -0,00 | 1400 | 6230 | 4150 | 18460 | 1.0 | 0,113 | .0115 0,095 | 0,292 0,241 | .2832 0,230 | 7,193 1,188 |
| MBF2133-6-() | -150 | .200 .199 | 5,08 5,05 | .300 | 7,62 | .350 | 8,89 | +.103 -.000 | +2,62 -0,00 | 1600 | 7120 | 6000 | 26690 | 1.5 | 0,170 | .0140 0,114 | 0,356 0,289 | .3272 0,3270 | 8,311 8,306 |
| MBF2133-7-() | -150 | .229 .228 | 5,82 5,79 | .350 | 8,89 | .400 | 10,16 | +.103 -.000 | +2,62 -0,00 | 1600 | 7120 | 7850 | 34920 | 2.0 | 0,226 | .0202 0,176 | 0,513 0,447 | .3315 0,3313 | 8,420 8,415 |
| MBF2133-8-() | -150 | .281 .280 | 6,63 6,60 | .400 | 10,16 | .450 | 11,43 | +.103 -.000 | +2,62 -0,00 | 3000 | 13350 | 10200 | 45370 | 2.5 | 0,282 | .0180 0,151 | 0,457 0,384 | .4320 0,4318 | 10,973 10,968 |
| MBF2133-9-() | -150 | .291 .290 | 7,40 7,36 | .450 | 11,43 | .500 | 12,70 | +.103 -.000 | +2,62 -0,00 | 3000 | 13350 | 12700 | 56490 | 3.0 | 0,339 | .0247 0,224 | 0,627 0,569 | .4320 0,4318 | 10,973 10,968 |
| MBF2133-10-() | -200 | .313 .312 | 7,95 7,92 | .475 | 12,06 | .550 | 13,97 | +.103 -.000 | +2,62 -0,00 | 5000 | 22240 | 14650 | 65170 | 3.5 | 0,400 | .0227 0,201 | 0,577 0,511 | .5389 0,5385 | 13,688 13,678 |
| MBF2133-11-() | -200 | .345 .344 | 8,77 8,74 | .525 | 13,33 | .575 | 14,60 | +.103 -.000 | +2,62 -0,00 | 5000 | 22240 | 17800 | 79180 | 4.0 | 0,452 | .0302 0,276 | 0,767 0,701 | .5389 0,5385 | 13,688 13,678 |
| MBF2133-12-() | -250 | .376 .375 | 9,55 9,52 | .575 | 14,60 | .625 | 15,87 | +.103 -.000 | +2,62 -0,00 | 7000 | 31130 | 21150 | 94080 | 4.0 | 0,452 | .0255 0,228 | 0,648 0,579 | .6532 0,6528 | 16,591 16,581 |

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

MONOGRAM

CODE IDENT. NO.
 98524

APPROVED DATE

06-29-88 ECN # 5535

REV. LETTER AND DATE

ECN # 1167

"G" 11-14-01

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 MEET 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 130° FLUSH HEAD
 FOR: INTERFERENCE FIT APPLICATIONS
 IN METALLIC STRUCTURE
 A-286 STAINLESS (95 KSI F_{su} CRES)

STANDARD

MBF 2133

SHEET 1 OF 2

