



DASH NO.	A REF	B REF	C ±.010	D ±.010
MS9231-01	0.625	0.500	0.359	0.328
MS9231-02	0.625	0.625	0.359	0.453
MS9231-03	0.625	0.750	0.359	0.578
MS9231-04	0.625	0.875	0.359	0.703
MS9231-05	0.625	1.000	0.359	0.828
MS9231-06	0.625	1.250	0.359	1.078
MS9231-07	0.625	1.500	0.359	1.328
MS9231-10	0.750	0.500	0.484	0.328
MS9231-11	0.750	0.625	0.484	0.453
MS9231-12	0.750	0.750	0.484	0.578
MS9231-13	0.750	0.875	0.484	0.703
MS9231-14	0.750	1.000	0.484	0.828
MS9231-15	0.750	1.250	0.484	1.078
MS9231-16	0.750	1.500	0.484	1.328
MS9231-20	0.875	0.500	0.609	0.328
MS9231-21	0.875	0.625	0.609	0.453
MS9231-22	0.875	0.750	0.609	0.578
MS9231-23	0.875	0.875	0.609	0.703
MS9231-24	0.875	1.000	0.609	0.828
MS9231-25	0.875	1.250	0.609	1.078
MS9231-26	0.875	1.500	0.609	1.328
MS9231-30	1.000	0.500	0.734	0.328
MS9231-31	1.000	0.625	0.734	0.453
MS9231-32	1.000	0.750	0.734	0.578
MS9231-33	1.000	0.875	0.734	0.703
MS9231-34	1.000	1.000	0.734	0.828
MS9231-35	1.000	1.250	0.734	1.078
MS9231-36	1.000	1.500	0.734	1.328

DASH NO.	A REF	B REF	C ±.010	D ±.010
MS9231-40	1.250	0.500	0.984	0.328
MS9231-41	1.250	0.625	0.984	0.453
MS9231-42	1.250	0.750	0.984	0.578
MS9231-43	1.250	0.875	0.984	0.703
MS9231-44	1.250	1.000	0.984	0.828
MS9231-45	1.250	1.250	0.984	1.078
MS9231-46	1.250	1.500	0.984	1.328
MS9231-50	1.500	0.500	1.234	0.328
MS9231-51	1.500	0.625	1.234	0.453
MS9231-52	1.500	0.750	1.234	0.578
MS9231-53	1.500	0.875	1.234	0.703
MS9231-54	1.500	1.000	1.234	0.828
MS9231-55	1.500	1.250	1.234	1.078
MS9231-56	1.500	1.500	1.234	1.328
MS9231-60	1.750	0.500	1.484	0.328
MS9231-61	1.750	0.625	1.484	0.453
MS9231-62	1.750	0.750	1.484	0.578
MS9231-63	1.750	0.875	1.484	0.703
MS9231-64	1.750	1.000	1.484	0.828
MS9231-65	1.750	1.250	1.484	1.078
MS9231-66	1.750	1.500	1.484	1.328
MS9231-70	2.000	0.500	1.734	0.328
MS9231-71	2.000	0.625	1.734	0.453
MS9231-72	2.000	0.750	1.734	0.578
MS9231-73	2.000	0.875	1.734	0.703
MS9231-74	2.000	1.000	1.734	0.828
MS9231-75	2.000	1.250	1.734	1.078
MS9231-76	2.000	1.500	1.734	1.328

**REQUIREMENTS:**

- MATERIAL: CORROSION RESISTANT STEEL IN ACCORDANCE WITH AMS 5504.
- HEAT TREATMENT AND CLEANING: HEAT TREATMENT AND CLEANING IN ACCORDANCE WITH AMS 2550.
- HARDNESS: 30-38 HRC.
- DIMENSIONING AND TOLERANCING: DIMENSIONING AND TOLERANCING SHALL BE IN ACCORDANCE WITH ANSI Y14.5M.
- TOLERANCE: UNLESS OTHERWISE SPECIFIED, TOLERANCES SHALL BE FOR LINEAR DIMENSION ±.015, ANGULAR ±2°.
- PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM THE TABLE.

EXAMPLE: MS9231 - 02

DASH NUMBER  
BASIC MS NUMBER

**NOTES:**

- ALL DIMENSIONS ARE IN INCHES.
- DO NOT USE UNASSIGNED PART NUMBERS.
- REMOVE BURRS AND BREAK SHARP EDGES.

THIS CATALOG PAGE IS FOR REFERENCE ONLY. REQUEST A CERTIFIED UMPCO DRAWING FOR ACTUAL SPECIFICATIONS. ANY CONFLICT BETWEEN THIS DOCUMENT AND THE CERTIFIED DRAWING, THE CERTIFIED DRAWING WILL TAKE PRECEDENCE. IF THE DOCUMENT IS CONTROLLED BY ANY OTHER SOURCE THAN UMPCO, THE CERTIFIED DRAWING MUST BE PURCHASED THROUGH THAT ORGANIZATION.

**UMPCO, INC**  
CAGE CODE No. 18076

REV  
N/C  
01/30/09

**AS9231**

BRACKET-ANGLE 90°, .190 X .375 BOLT

PART NUMBER