



FIGURE 1. Plain, self-aligning, rod end bearing, externally threaded.

TABLE 1. Dimensions

DASH NUMBER	B BORE +.0000 -.0005	D OUTSIDE DIA. +.010	L THREAD LENGTH +.031	E THREAD SIZE UNF-3A	F ±.010	W BALL WIDTH +.000 -.002	H BODY WIDTH ±.005	A MIN	G KEYWAY FLAT +.000 -.020	J MAX HOUSING I. D.	Q* MIN
-3	.1900	.806	.968	.3125-24	1.562	.437	.337	.30	.980	.6250	15
-4	.2500				1.875		.327	.36	1.270	.6875	14
-5	.3125	.900	1.187	.3750-24	1.938	.500	.416	.47	1.235	.8125	8
-6	.3750	1.025		.4375-20	2.125	.562	.452	.54	1.402	.9062	10
-7	.4375	1.150	1.281	.5000-20	2.438	.625	.515	.61	1.589	1.0000	9
-8	.5000	1.337	1.468	.6250-18	2.625	.750	.577	.75	1.683	1.1875	12
-10	.6250	1.525	1.562	.7500-16	2.875	.875	.640	.85	1.808	1.3750	13
-12	.7500	1.775	2.000	.8750-14	3.375	.875	.765	1.00	2.121	1.6250	6
-14	.8750	2.025	2.343	1.2500-12	4.125	1.375	1.015	1.27	2.464	2.1250	12

(a) WHEN SPECIFIED KEYWAY SHALL BE IN ACCORDANCE WITH NAS 559 EXCEPT LENGTH AS TABULATED.

(b) THREAD FORM AS PER MIL-S-7742 WILL BECOME INACTIVE AFTER MARCH 1970. AFTER MARCH 1970, THREAD FORM SHALL CONFORM TO MIL-S-8879.

FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.  
REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

① INACTIVE FOR NEW DESIGN AFTER 4 JUNE 82 USE MIL-B-81935/1.

SEE TABLE IV.

① DENOTES CHANGE

PREPARING ACTIVITY: NAVY - AS

CUSTODIANS: ARMY - AV

NAVY -

AIR FORCE - 11

DLA -

REVIEW: USAF-99, DLA-IS

USER:

PROJECT NUMBER: 3120-0696

DISTRIBUTION STATEMENT

A. APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED.

## MILITARY SPECIFICATION SHEET

TITLE

BEARING, PLAIN, ROD END,  
SELF-ALIGNING, TFE LINED,  
EXTERNALLY THREADED

SPECIFICATION SHEET NUMBER

MS21242D 19 JUL 89

SUPERSEDING

MS21242C 4 JUN 82

AMSC - N/A

FSC 3120

PAGE 1 OF 3

TABLE II. LOAD REQUIREMENTS

DASH NO.	OSCILLATING LOAD LB	ULTIMATE STATIC LOAD LB	FATIGUE LOAD LB	AXIAL PROOF LOAD LB	WEIGHT MAX LB	NO LOAD BREAKAWAY TORQUE IN/LBS	
						MIN	MAX
- 3	1470 (c)	2360	1470 (c)	1000	.072	.5	6
- 4	3420	4860	2380	1000			
- 5	3590	7180	2770 (d)	1100	.087	1	10
- 6	5120	8550	3570	1660	.136		
- 7	6130	12000	4800	1850	.183		
- 8	8370	19500	7680 (d)	2040	.278		
- 10	10700	21900	9180	2430	.424		
- 12	13200	29300	11600	2810	.639		
- 14	16500	34500	13100	3320	.963	2	16
- 16	26600	80300	30400	4340	2.546		

(c) BASED ON BOLT BENDING FATIGUE STRENGTH 180,000 PSI

(d) SHANK LIMITATION

## MATERIAL:

BODY CODE

"C" CORROSION RESISTING STEEL, AMS 5643 (17-4PH) (INACTIVE, SEE INTERCHANGEABILITY TABLE III)

"S" ALLOY STEEL, MIL-S-5000 (4340)

BALL: AMS 5630, 440C

CARTRIDGE OUTER RING: AMS5643 (17-4PH), AMS 5528 (17-7), AISI 410

LINER: SEE PROCUREMENT SPEC.

PLATING: ALLOY STEEL, CADMIUM PLATING QQ-P-416, TYPE I, CLASS 2

HARDNESS:

ROD END BODY: 17-4PH, Rc 39-44

4340, Rc 39-42

PASSIVATION: CORROSION RESISTING STEEL, QQ-P-35, TYPE II OR III

SURFACE FINISH: THREAD RELIEF RHR 63.

ALL OTHER MACHINED SURFACES, RHR 125 MAX.

HEAT TREATMENT: IN ACCORDANCE WITH MIL-H-6875

TEMPERATURE RANGE: -65°F to +250°F

DIMENSIONS IN INCHES, UNLESS OTHERWISE SPECIFIED

TOLERANCES: DECIMALS  $\pm .010$ ; ANGLES  $\pm \frac{1}{2}^\circ$ .

BREAK SHARP EDGES AND CORNERS AND REMOVE ALL BURRS AND SLIVERS.

EXAMPLE OF PART NUMBER: MS21242

X

XX

X

X

— ADD L FOR LEFT HAND THREAD WHEN SPECIFIED

— KEYWAY (CODE K) WHEN SPECIFIED

— BORE DIAMETER CODE IN MULTIPLES OF 1/16 INCH

— ROD END BODY MATERIAL CODE

— BASIC MS PART NUMBER

THE FOLLOWING DASH NUMBERS ARE **INACTIVE AFTER 22 SEP 70** THE INACTIVE BEARINGS SHOULD BE USED FOR MAINTENANCE PURPOSES UNTIL EXISTING STOCK IS DEPLETED. USE ONLY THE SUBSTITUTIVE BEARINGS FOR NEW DESIGN.

DASH NUMBERS			
INACTIVE MS21242	SUBSTITUTIVE MS21242	INACTIVE MS21242	SUBSTITUTIVE MS21242
C3	S3	C8	S8
C4	S4	C10	S10
C5	S5	C12	S12
C6	S6	C14	S14
C7	S7	C16	S16

PREPARING ACTIVITY: NAVY — AS

CUSTODIANS: ARMY — AV

NAVY —

AIR FORCE — 11

DLA —

REVIEW: USAF-99, DLA-IS

USER:

PROJECT NUMBER: 3120-0696

## MILITARY SPECIFICATION SHEET

TITLE

 BEARING, PLAIN, ROD END,  
SELF-ALIGNING, TFE LINED,  
EXTERNALLY THREADED

SPECIFICATION SHEET NUMBER

MS21242D 19 JUL 89

SUPERSEDING

MS21242C 4 JUN 82

AMSC — N/A

FSC 3120

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TABLE IV. <u>INTERCHANGEABILITY 1/</u>	
INACTIVE FOR NEW DESIGN	SUPERSEDED BY
MS21242S3 ↑ S4 S5 S6 S7 S8 S10 ↓ S12 S14 MS21242S16	M81935/1-3 ↓ -4 -5 -6 -7 -8 -10 -12 -14 M81935/1-16

- 1/ INTERCHANGEABILITY RELATIONSHIP M81935/1 ITEMS CAN UNIVERSALLY REPLACE THE INACTIVE MS21242 ITEMS IDENTIFIED BY THE SAME DASH NUMBERS; BUT THE INACTIVE MS21242 ITEMS CANNOT ALWAYS REPLACE THE SUPERSEDING M81935/1 ITEMS.

PREPARING ACTIVITY: NAVY — AS

CUSTODIANS: ARMY — AV

NAVY —

AIR FORCE — 11

DLA —

REVIEW: USAF-99, DLA-IS  
USER

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