MIL-STD-1762
20 AUGUST 1979

MILITARY STANDARD

BEARINGS AND BUSHINGS, PLAIN, PREFERRED FOR DESIGN, LISTING OF

FSC 3120

DEPARTMENT OF DEFENSE
Washington, DC 20301

Bearings and Bushings, Plain, Preferred for Design, Listing of:

MIL-STD-1762

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Aeronautical Systems Division (AFSC), ASD/ENESS, Wright-Patterson Air Force Base, Ohio 45433, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FOREWORD

1. The purpose of this bookform standard is to provide a commodity type parts document on plain bearings and bushings to aid military equipment designers and engineers in the selection of preferred plain bearings and bushings.

2. This document consists of an index of preferred standardization documents and a listing of preferred parts within these documents that have been selected with respect to configuration, sizes, materials, and finishes.

3. The selection of preferred documents listed in this standard and the selection of part numbers within the preferred documents were made as follows:

a. Selection of Documents

(1) Documents suitable for listing in the Department of Defense Index of Specifications and Standards (DODISS).

(2) Documents which are active for design.

(3) Documents specifying part numbers (dash numbers) which designate specific sizes, materials and finishes.

b. Selection of Part Numbers

(1) By conducting a thorough search and evaluation of existing DoD procurement information.

(2) By evaluation of preferred parts listed in recent weapon system contracts.

(3) By evaluation of preferred parts lists obtained from industry.

4. To increase the scope and versatility of this plain bearings and bushings standard, periodic revisions will be developed. Results from Standardization studies, MILITARY PARTS CONTROL ADVISORY GROUP (MPCAG) evaluations, evaluation of a new family of plain bearings and bushings and recommendations from interested activities will form the basis for these revisions.

CONTENTS

SECTIONS - Continued

SECTIONS - Continued

1. SCOPE

1.1 Scope. This standard provides a listing of preferred plain bearings and bushings encompassing the following characteristics:

a. Configuration

b. Size

c. Materials

d. Protective Coatings and Finishes

1.2 Purpose. The purpose of this standard is as follows:

a. Provide the designer with a listing of preferred plain bearings and bushings to promote their use in design of weapon systems and equipments.

b. Control and minimize the variety of plain bearings and bushings used in military equipment thereby facilitating logistic support of the equipment during its life cycle.

1.3 Application. To minimize the proliferation of plain bearings and bushings, only the preferred part numbers listed herein are authorized for use in new design. All other part numbers, even though shown on current Military Specification Sheets, Military Standards (MSs), National Aerospace Standards (NASs), Aeronautical Standards (ASs), and Air Force/Navy Aeronautical Standards (ANs), are not approved for use in new design.

1.4 Intended use. Implement this standard by including one of the following options in the contract:

a. Require this standard as a supplement to an end use type standard such as MIL-STD-1471 or MIL-STD-1515. When thus required, only the plain bearings and bushings listed in both the end use type and this standard are acceptable. Use of other plain bearings and bushings requires approval of the Government procuring activity.

b. Require this standard as a guide to be used with an end use type standard such as MIL-STD-1471 or MIL-STD-1515. When thus required, the plain bearings and bushings listed in the end use type standard and this standard are acceptable. The designer must assure himself the plain bearings and bushings listed in both the end use type standard and this standard are not adequate for his requirement before using plain bearings and bushings not listed herein. Use of plain bearings and bushings not listed in the end use type standard requires approval of the Government procuring activity.

c. Require this standard and indicate exceptions to it. When thus required, only the plain bearings and bushings listed in this standard and not excluded by the exceptions are acceptable. Use of other plain bearings and bushings requires approval of the Government procuring activity.

d. Require this standard as a guide. When thus required, the designer must assure himself the plain bearings and bushings listed in this standard are not adequate for the requirement before using other plain bearings and bushings.

2. REFERENCED DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this standard to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-B-81934/1 - Bearing, Sleeve, Plain, Self-Lubricating, 325°F.

MIL-B-81934/2 - Bearing, Sleeve, Flanged, Self-Lubricating, 325°F.

MIL-B-81935/1 - Bearing, Plain, Rod End, Self-Aligning, Self-Lubricating, Externally Threaded, -65°F to +325°F.

MIL-B-81935/2 - Bearing, Plain, Rod End, Self-Aligning, Self-Lubricating, Internally Threaded, -65°F to +325°F.

MIL-B-81936/1 - Bearings, Plain, Self-Aligning, Be Cu Ball, CRES Race, (With Staking Groove), -65°F to +350°F.

MIL-B-81936/2 - Bearings, Plain, Self-Aligning, Be Cu Ball, CRES Race, -65°F to +350°F.

STANDARDS

MILITARY

MS14101 - Bearing, Plain, Self-Lubricating, Self-Aligning, Low Speed, Narrow, Grooved Outer Ring, -65° to 325°F.

MS14102 - Bearing, Plain, Self-Lubricating, Self-Aligning, Low Speed, Wide, Chamfered Outer Ring, -65° to 325°F.

MS14103 - Bearing, Plain, Self-Lubricating, Self-Aligning, Low Speed, Wide, Grooved Outer Ring, -65° to 325°F.

MS14104 - Bearing, Plain, Self-Lubricating, Self-Aligning, Low Speed, Narrow, Chamfered Outer Ring, -65° to 325°F.

STANDARDS

MILITARY - Continued

MS17795 - Bearing, Sleeve, Plain Type, Sintered Bronze, Oil Impregnated.

MS17796 - Bearing, Sleeve, Flanged Type, Sintered Bronze, Oil Impregnated.

MS21154 - Bearing, Plain, Self-Aligning, Grooved Outer Ring.

MS21155 - Bearing, Plain, Self-Aligning.

MS21240 - Bearing, Sleeve, Plain, TFE Lined.

MS21241 - Bearing, Sleeve, Flanged, TFE Lined.

MS35688 - V-Bearing, (Spring, Loaded Throw Out Type).

MS35689 - V-Bearing (Spring Loaded).

MS35771 - Bearing, Sleeve, Plain, Bronze.

MS35772 - Bearing, Sleeve, Flanged, Bronze.

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other Publications. The following documents form a part of this standard to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC. (AIA)

NATIONAL AEROSPACE STANDARDS

NAS72 - Bushing, Clamp-Up, Steel, Chrome Plated.

NAS73 - Bushing, Clamp-Up, Steel, Cadmium Plated.

NAS74 - Bushing, Clamp-Up, Bronze.

NAS75 - Bushing, Plain, Press Fit, Steel.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC. (AIA)

NATIONAL AEROSPACE STANDARDS - Continued

NAS76 - Bushing, Plain, Press Fit, Bronze.

NAS77 - Bushing, Flanged, Press Fit, Steel and Bronze.

NAS537 - Bushing, Plain, Press Fit, Undersize Inside Diameter.

NAS538 - Bushing, Flanged, Press Fit, Undersize Inside Diameter.

(Application for copies should be addressed to the Aerospace Industries Association of America, Inc., 1725 De Sales Street, N.W., Washington, DC 20036.)

3. DEFINITIONS

3.1 Adopted Industry Standards. Any Industry Specification or Standard which is listed in this Standard/The Department of Defense Index of Specifications and Standards (DODISS).

3.2 Commodity Type Document. A document which lists preferred parts within a Federal Supply Classification class or Item Name. This document is to be used for selecting preferred parts for a new design when the document is invoked as a contractual requirement in conjunction with a parts control requirement.

3.3 End Use Type Document. A document that lists preferred documents and establishes parts requirements which are contractually binding for the design and construction/manufacture of a weapon system or an established equipment category such as MIL-STD-1515.

3.4 Military Parts Control Advisory Group (MPCAG). A Department of Defense organization which provides advice to the Military Departments and military contractors on the selection of parts in assigned commodity classes, and collects data on nonstandard parts for developing or updating military specifications and standards.

3.5 Definitions of approved item names in this standard are as follows:

a. Bearing, Plain, Rod End. A detachable assembly in or on which a journal, gudgeon, pivot, or the like moves. It is used to carry a load and to reduce sliding friction. It does not employ rolling elements. The outer member of the assembly is modified to provide a shank. The inner member may be either a plain spherical bearing or a sleeve bearing. Excludes BEARING, PLAIN, SPHERICAL and BEARING, PLAIN, SELF-ALIGNING.

b. Bearing, Plain, Self-Aligning. A detachable assembly in or on which a journal, gudgeon, pivot, or the like moves. It is used to carry a load and to reduce sliding friction. It does not employ rolling elements. The item consists of a bored precision ground ball (or spherical plain bearing) around which an outer ring is fitted. The assembly may be either separable or nonseparable. Excludes BEARING, PLAIN, ROD END and BEARING, PLAIN, SPHERICAL.

c. Bearing, Sleeve. A tubular shaped item with or without flange(s) designed to reduce friction and carry a kinetic load on the surface(s) parallel to the axis of the bore. The length must exceed 25 percent of the outside diameter or the shortest diameter between peripheral flats, except for straight tubular (without flange or shoulder) items having a bearing surface(s) parallel to the axis of the bore only. Includes items which are divided into two or more segments which include 180 degrees or less of the bearing periphery. See also BUSHING, SLEEVE; SPACER, SLEEVE; and WASHER (as modified). Excludes PIN, HOLLOW.

d. Bearing, V. A cylindrical device, primarily designed to furnish a bearing surface for a low-speed oscillating shaft. The item consists of a precision machined or inclosed V or modified V groove and may include a drilled hole for spring loading.

e. Bushing, Sleeve. A tubular shaped unthreaded item with or without a flange at one end designed to be inserted into a hole to reduce the inside diameter of the hole and to protect the surrounding body structure from damage resulting from stress, strain, and/or vibration. The length must exceed 25 percent of the outside diameter or the shortest distance between peripheral flats. For items made of rubber, see BUSHING, RUBBER. See also BEARING, SLEEVE; BUSHING, TAPERED; SPACER, SLEEVE; INSULATOR, BUSHING; and BUSHING, ELECTRICAL CONDUCTOR.

4. GENERAL STATEMENTS

4.1 Selection procedure.

4.1.1 Document selection. The applicable section shall be selected after reviewing the table of contents.

4.1.2 Part number selection (preliminary). A preliminary selection of the applicable part number shall be made after reviewing the nominal parameters (sizes, materials, and finishes) listed in the sections.

4.1.3 Part Number selection (final). A final selection of the applicable part number shall be made after reviewing the detailed requirements specified in the referenced plain bearing and bushing documents for suitability in the particular military equipment being designed (considering the application and environmental conditions).

5. DETAILED REQUIREMENTS

5.1 The detailed requirements for preferred plain bearings and bushings are contained in the applicable plain bearing or bushing document and associated procurement specification. If there is desagreement between the nominal parameters listed in this standard and the parameters specified in the applicable plain bearing or bushing document or associated procurement specification, the parameters specified in the applicable plain bearing or bushing document or associated procurement specification shall prevail.

6. NOTES

6.1 Dimensions. Dimensions shown in the sections contained herein are in inches.

Custodians:
Army - AR
Air Force - 11

Review activities:
Army - EA, MI
Air Force - 99
DLA - IS

User activities:
Army - AV
Navy - OS

Preparing Activity:
Air Force - 11

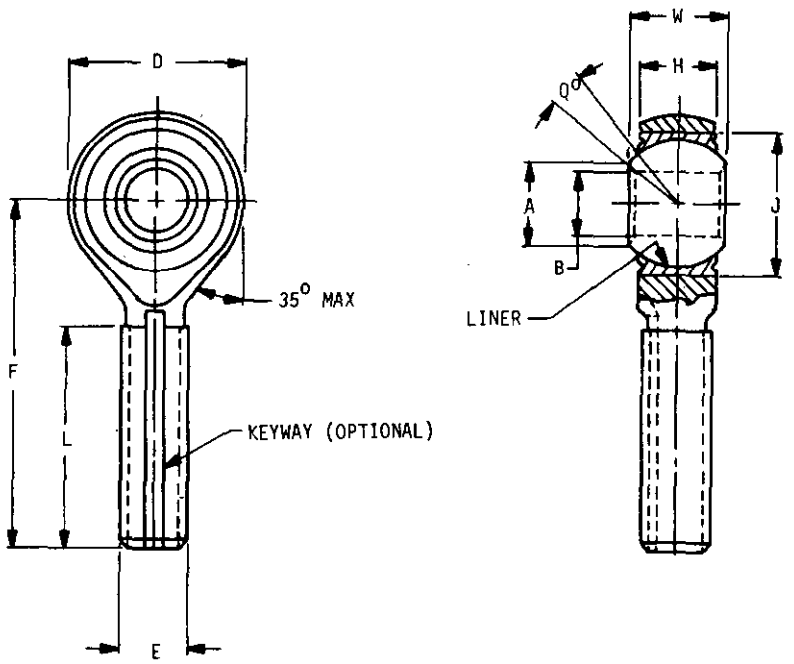
Agent:
DLA - IS

(Project 3120-0502)

SECTION 101

BEARINGS, PLAIN, ROD END, SELF-ALIGNING, SELF-LUBRICATING,
EXTERNALLY THREADED, -65°F TO +325°F

APPLICABLE DOCUMENT: MIL-B-81935/1



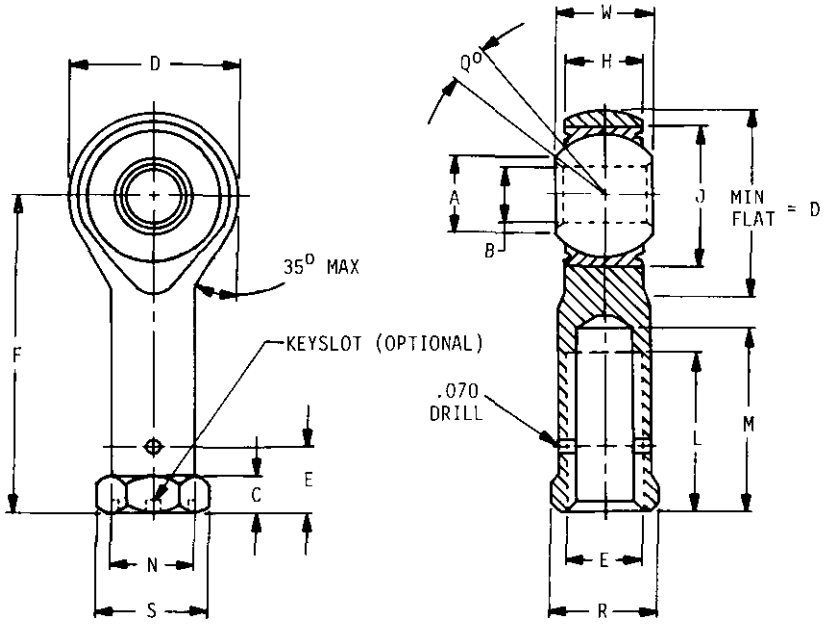
MATERIAL	PROTECTIVE FINISH
STEEL, ALLOY	CADMIUM PLATE

B BORE	D OUTSIDE DIA	L THREAD LENGTH	E THREAD SIZE UNJF-3A	F	W BALL WIDTH	H BODY WIDTH	A MIN	J MAX HOUSING ID	Q° MIN	ULTIMATE STATIC LOAD LB	FATIGUE LOAD LB	AXIAL PROOF LOAD LB	DASH NO.
.1900	.806	.968	.3125-24	1.562	.437	.337	.30	.6250	15	2360	1470	1000	-3
.2500										4860	2380	1000	-4
.3125	.900	1.187		1.875		.327	.36	.6875	14	7180	2770	1100	-5
.3750	1.025		.3750-24	1.938	.500	.416	.47	.8125	8	8550	3570	1660	-6
.4375	1.150	1.281	.4375-20	2.125	.562	.452	.54	.9062	10	12000	4800	1850	-7
.5000	1.337	1.468	.5000-20	2.438	.625	.515	.61	1.0000	9	19500	7680	2040	-8
.6250	1.525	1.562	.6250-18	2.625	.750	.577	.75	1.1875	12	21900	9180	2430	-10
.7500	1.775	1.687	.7500-16	2.875	.875	.640	.85	1.3750	13	29300	11600	2810	-12
.8750	2.025	2.000	.8750-14	3.375	.875	.765	1.00	1.6250	6	34500	13100	3320	-14
1.0000	2.775	2.343	1.2500-12	4.125	1.375	1.015	1.27	2.2250	12	80300	30400	4340	-16

SECTION 102

BEARINGS, PLAIN, ROD END, SELF-ALIGNING, SELF-LUBRICATING, INTERNALLY THREADED, -65°F TO +325°F

APPLICABLE DOCUMENT: MIL-B-81935/2



MATERIAL	PROTECTIVE FINISH
STEEL, ALLOY	CADMIUM PLATE

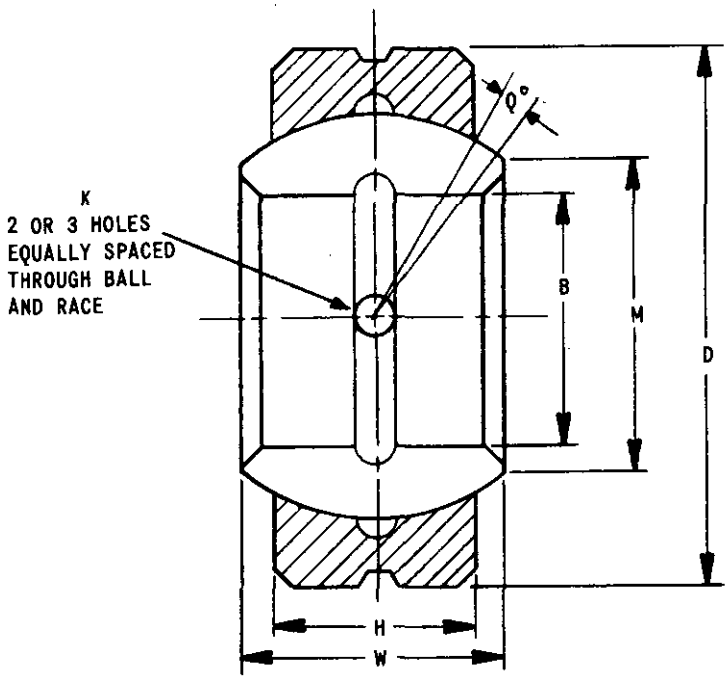
B	D DIA	L COMPLETED THREAD MIN	E THREAD SIZE UNJF-3B	F	N SHANK DIA	W BALL WIDTH	H BODY WIDTH	A MIN	J MAX	M MAX	C	R	Q° MIN	S REF ACROSS CORNERS OR DIA	DASH NO.
.1900	.806	.750	.3125-24	1.375	.422	.437	.337		.6250	.875	.188	.437	15	.500	-3
.2500				1.469											-4
.3125	.900	.875	.3750-24	1.625	.485		.327	.36	.6875	1.000	.250	.500	14	.580	-5
.3750	1.025	1.000		1.812	.547	.500	.416	.47	.8125	1.125		.562	8	.660	-6
.4375	1.150	1.125	.4375-20	2.000	.610	.562	.452	.54	.9062	1.250		.625	10	.720	-7
.5000	1.337	1.250	.5000-20	2.250	.735	.625	.515	.61	1.0000	1.375		.750	9	.880	-8
.6250	1.525	1.375	.6250-18	2.500	.860	.750	.577	.75	1.1875	1.500	.375	.875	12	1.020	-10
.7500	1.775	1.625	.7500-16	2.875	.985	.875	.640	.85	1.3750	1.750		1.000	13	1.160	-12
.8750	2.025	1.875	.8750-14	3.375	1.110	.875	.765	1.00	1.6250	2.062	.500	1.125	6	1.300	-14
1.0000	2.775	2.125	1.250-12	4.125	1.688	1.375	1.015	1.27	2.1250	2.312	.563	1.750	12	2.020	-15

ULTIMATE STATIC LOAD LB	FATIGUE LOAD LB	AXIAL PROOF LOAD LB	DASH NO.
2360	1470	1000	-3
4860	2380	1000	-4
7180	3020	1100	-5
8550	3570	1660	-6
12000	4800	1850	-7
19500	8260	2040	-8
21900	9180	2430	-10
29300	11600	2810	-12
34500	13100	3320	-14
80300	30400	4340	-16

SECTION 201

BEARING, PLAIN, SELF ALIGNING

APPLICABLE DOCUMENT: MS21155



BEARING PART	MATERIAL	PROTECTIVE FINISH
BALL	STEEL AND CRES	CHROME PLATE
RACE	ALLOY STEEL AND ALUMINUM BRONZE	CADMIUM PLATE

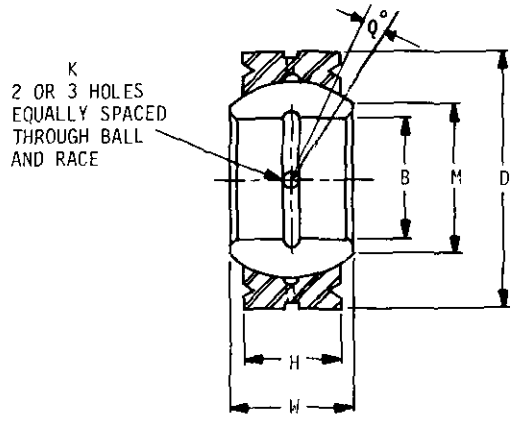
B	D	H	K	M	Q°	W	ALLOY STEEL		ALUMINUM BRONZE		MS21155 DASH NO.
							RADIAL STATIC LIMIT LOAD	AXIAL STATIC LIMIT LOAD	RADIAL STATIC LIMIT LOAD	AXIAL STATIC LIMIT LOAD	
.1900	.5625	.218	.047	.293	10	.281	4600	2100	2800	850	3
.2500	.6562	.250	.047	.364	10	.343	7080	2800	4300	1100	4
.3125	.7500	.281	.062	.419	10	.375	8500	3550	5200	1400	5
.3750	.8125	.312	.062	.475	9	.406	11050	4400	6750	1760	6
.4375	.9062	.343	.062	.530	8	.437	13900	5400	8500	2150	7
.5000	1.0000	.390	.062	.600	8	.500	18850	7050	11500	2800	8
.5625	1.0937	.437	.062	.670	8	.562	25500	8900	15600	3550	9
.6250	1.1875	.500	.078	.739	8	.625	31950	11700	19500	4650	10
.7500	1.4375	.593	.078	.920	8	.750	46750	16500	28500	6575	12
.8750	1.5625	.703	.078	.980	8	.875	62750	23300	38300	9300	14
1.0000	1.7500	.797	.078	1.118	9	1.000	83350	30000	51000	12000	16

SECTION 202

BEARING, PLAIN, SELF-ALIGNING

GROOVED OUTER RING

APPLICABLE DOCUMENT: MS21154



BEARING PART	MATERIAL	PROTECTIVE FINISH
BALL	STEEL AND CRES	CHROME PLATE
RACE	ALLOY STEEL AND ALUMINUM BRONZE	CADMIUM PLATE

B	D	H	K	M	Q°	W	ALLOY STEEL		ALUMINUM BRONZE		MS21154 DASH NO.
							RADIAL STATIC LIMIT LOAD	AXIAL STATIC LIMIT LOAD	RADIAL STATIC LIMIT LOAD	AXIAL STATIC LIMIT LOAD	
.1900	.5625	.218	.047	.293	10	.281	4600	2100	2800	850	-3
.2500	.6562	.250	.047	.364	10	.343	7080	2800	4300	1100	-4
.3125	.7500	.281	.062	.419	10	.375	8500	3550	5200	1400	-5
.3750	.8125	.312	.062	.475	9	.406	11050	4400	6750	1760	-6
.4375	.9062	.343	.062	.530	8	.437	13900	5400	8500	2150	-7
.5000	1.0000	.390	.062	.600	8	.500	18850	7050	11500	2800	-8
.5625	1.0937	.437	.062	.670	8	.562	25500	8900	15600	3550	-9
.6250	1.1875	.500	.078	.739	8	.625	31950	11700	19500	4650	-10
.7500	1.4375	.593	.078	.920	8	.750	46750	16500	28500	6575	-12
.8750	1.5625	.703	.078	.980	8	.875	62750	23300	38300	9300	-14
1.0000	1.7500	.797	.078	1.118	9	1.000	83350	30000	51000	12000	-16

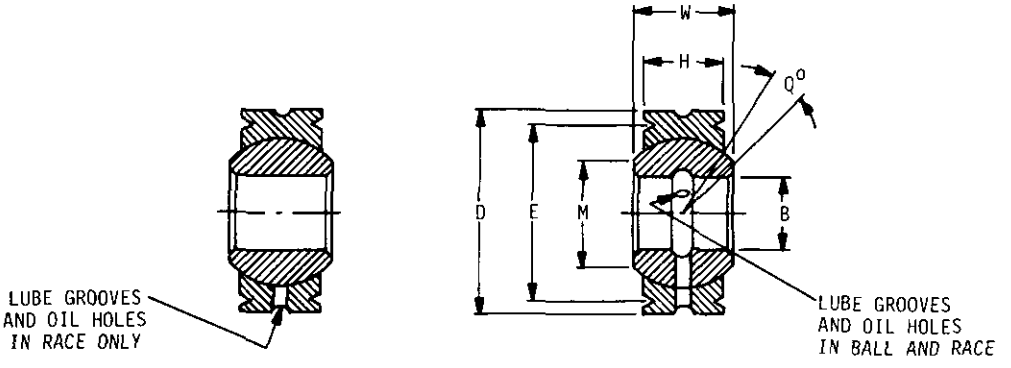
SECTION 203

BEARINGS, PLAIN, SELF-ALIGNING,

Be Cu BALL, CRES RACE, (WITH STAKING GROOVE),

-65°F TO +350°F

APPLICABLE DOCUMENT: MIL-B-81936/1



MATERIAL	
BALL	RACE
BERYLLIUM COPPER	CRES

B BORE	D OUTSIDE DIA	E	H RACE WIDTH	BALL DIA	M MIN	Q° MIN	W BALL WIDTH	RADIAL STATIC LIMIT LOAD LB	AXIAL STATIC LIMIT LOAD LB	PEAK-RADIAL LOAD MODE I LB	PEAK-RADIAL LOAD MODE II LB	DASH NUMBER	
												LUBE GROOVES AND OIL HOLES IN RACE ONLY	LUBE GROOVES AND OIL HOLES IN BALL AND RACE
.2500	.6562	.596	.250	.500	.357	12	.343	6330	1930	2570	5000	-4R	-4
.3125	.7500	.652	.281	.562	.413	11	.375	8460	2450	3520	6300	-5R	-5
.3750	.8125	.714	.312	.656	.509	9	.406	11400	3090	4570	8200	-6R	-6
.4375	.9062	.808	.343	.718	.563	8	.437	14800	3740	5750	9900	-7R	-7
.5000	1.0000	.878	.390	.813	.634	8	.500	20400	4860	7500	12650	-8R	-8
.5625	1.0937	.972	.437	.875	.664	8	.562	26700	6100	9500	15300	-9R	-9
.6250	1.1875	1.065	.500	.968	.732	8	.625	33100	8080	11750	19300	-10R	-10
.7500	1.4375	1.315	.593	1.187	.913	8	.750	50000	11440	16900	28200	-12R	-12
.8125	1.5625	1.440	.650	1.281	.984	8	.812	59000	13800	19800	33400	-13R	-13
.8750	1.6562	1.534	.703	1.375	1.054	8	.875	70300	16160	23000	38700	-14R	-14
1.0000	1.8750	1.753	.797	1.562	1.193	8	1.000	77700	20850	30000	49800	-16R	-16
1.1250	2.1250	2.003	.900	1.750	1.334	8	1.125	121500	26740	38000	63000	-18R	-18
1.2500	2.3125	2.190	1.000	1.937	1.473	8	1.250	152000	33065	46900	77500	-20R	-20
1.3750	2.5625	2.440	1.100	2.156	1.654	8	1.375	186000	40120	56900	95000	-22R	-22
1.5000	2.8125	2.690	1.200	2.344	1.794	8	1.500	224000	47820	67500	112500	-24R	-24

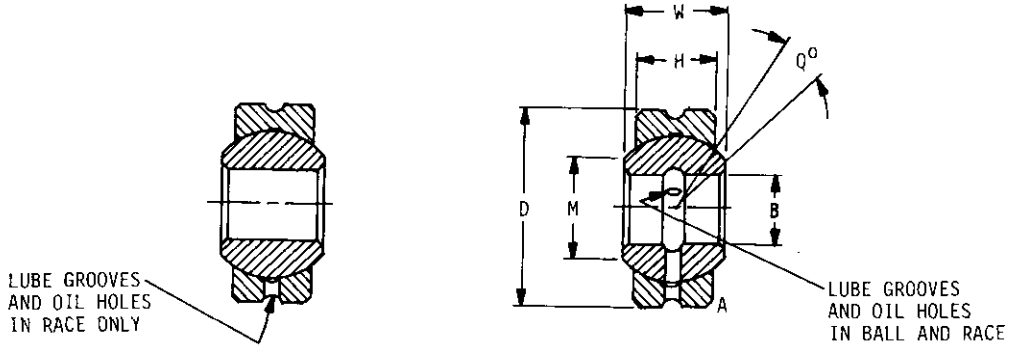
SECTION 204

BEARINGS, PLAIN, SELF-ALIGNING,

Be Cu BALL, CRES RACE

$-65^{o}F$ TO $+350^{o}F$

APPLICABLE DOCUMENT: MIL-B-81936/2



MATERIAL	
BALL	RACE
BERYLLIUM COPPER	CRES

B BORE	D OUTSIDE DIA	H RACE WIDTH	BALL DIA	M MIN	Q° MIN	W BALL WIDTH	RADIAL STATIC LIMIT LOAD LB	AXIAL STATIC LIMIT LOAD LB	PEAK RADIAL LOAD MODE I LB	PEAK RADIAL LOAD MODE II LB	DASH NUMBER: LUBE GROOVES AND OIL HOLES IN RACE ONLY	DASH NUMBER: LUBE GROOVES AND OIL HOLES IN BALL AND RACE
.2500	.6562	.250	.500	.357	12	.343	6330	1930	2570	5000	4R	-4
.3125	.7500	.281	.562	.413	11	.375	8460	2450	3520	6300	5R	-5
.3750	.8125	.312	.656	.509	9	.406	11400	3090	4570	8200	6R	-6
.4375	.9062	.343	.718	.563	8	.437	14800	3740	5750	9900	7R	-7
.5000	1.0000	.390	.813	.634	8	.500	20400	4860	7500	12650	8R	-8
.5625	1.0937	.437	.875	.664	8	.562	26700	6100	9500	15300	9R	-9
.6250	1.1875	.500	.968	.732	8	.625	33100	8080	11750	19300	10R	-10
.7500	1.4375	.593	1.187	.913	8	.750	50000	11440	16900	28200	12R	-12
.8125	1.5625	.650	1.281	.984	8	.812	59000	13800	19800	33400	13R	-13
.8750	1.6562	.703	1.375	1.054	8	.875	70300	16160	23000	38700	14R	-14
1.0000	1.8750	.797	1.562	1.193	8	1.000	77700	20850	30000	49800	16R	-16
1.1250	2.1250	.900	1.750	1.334	8	1.125	121500	26740	38000	63000	18R	-18
1.2500	2.3125	1.000	1.937	1.473	8	1.250	152000	33065	46900	77500	20R	-20
1.3750	2.5625	1.100	2.156	1.654	8	1.375	186000	40120	56900	95000	22R	-22
1.5000	2.8125	1.200	2.344	1.794	8	1.500	224000	47820	67500	112500	24R	-24

SECTION 205

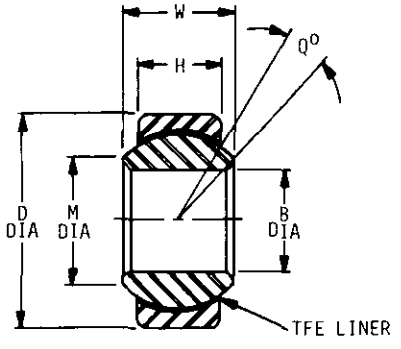
BEARING, PLAIN, SELF-LUBRICATING,

SELF-ALIGNING, LOW SPEED,

NARROW, CHAMFERED OUTER RING,

-65°F TO +325°F

APPLICABLE DOCUMENT: MS 14104



BEARING PART	MATERIAL	HARDNESS
BALL	440C PH13 - 8MO	RC 55 - 62 RC 43 - 47
OUTER RING	*17-4PH*	*RC 28 TO 37*

B	D	H	M	Q° MIN	W	DASH NO.
.1900	.5625	.218	.293	10	.281	-3
.2500	.6562	.250	.364	10	.343	-4
.3125	.7500	.281	.419	10	.375	-5
.3750	.8125	.312	.475	9	.406	-6
.4375	.9062	.343	.530	8	.437	-7
.5000	1.0000	.390	.600	8	.500	-8
.5625	1.0937	.437	.670	8	.562	-9
.6250	1.1875	.500	.739	8	.625	-10
.7500	1.4375	.593	.920	8	.750	-12
.8750	1.5625	.703	.980	8	.875	-14
1.0000	1.7500	.797	1.118	9	1.000	-16

SECTION 206

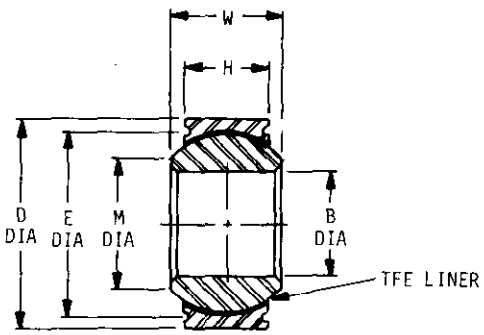
BEARING, PLAIN, SELF-LUBRICATING,

SELF-ALIGNING, LOW SPEED,

NARROW, GROOVED OUTER RING

$-65^{o}F$ TO $+325^{o}F$

APPLICABLE DOCUMENT: MS14101



BEARING PART	MATERIAL	HARDNESS
BALL	440C PH13 - 8MO	RC 55 - 62 RC 43 - 47
OUTER RING	17-4PH	RC 28 TO 37

B	D	E	H	M	W	DASH NO.
.1900	.5625	.502	.218	.293	.281	-3
.2500	.6562	.596	.250	.364	.343	-4
.3125	.7500	.662	.281	.419	.375	-5A
.3750	.8125	.714	.312	.475	.406	-6
.4375	.9062	.808	.343	.530	.437	-7
.5000	1.0000	.878	.390	.600	.500	-8
.5625	1.0937	.972	.437	.670	.562	-9
.6250	1.1875	1.065	.500	.739	.625	-10
.7500	1.4375	1.315	.593	.920	.750	-12
.8750	1.5625	1.440	.703	.980	.875	-14
1.0000	1.7500	1.628	.797	1.118	1.000	-16

SECTION 207

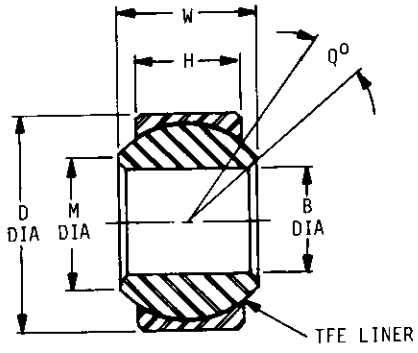
BEARING, PLAIN, SELF-LUBRICATING,

SELF-ALIGNING, LOW SPEED,

WIDE, CHAMFERED OUTER RING,

-65°F TC +325°F

APPLICABLE DOCUMENT: MS14102



BEARING PART	MATERIAL	HARDNESS
BALL	440C PH13 - 8MO	RC 55 - 62 RC 43 - 47
OUTER RING	17-4PH	RC 28 TO 37

B	D	H	M	Q° MIN	W	DASH NO.
.1900	.6250	.327	.300	15	.437	-3
.2500						-4
.3125	.6875	.317	.360	14	.437	-5
.3750	.8125	.406	.466	8	.500	-6
.4375	.9375	.442	.537	10	.562	-7
.5000	1.0000	.505	.607	9	.625	-8
.5625	1.1250	.536	.721	10	.687	-9
.6250	1.1875	.567	.747	12	.750	-10
.7500	1.3750	.630	.845	13	.875	-12
.8750	1.6250	.755	.995	6	.875	-14
1.0000	2.1250	1.005	1.269	12	1.375	-16

SECTION 208

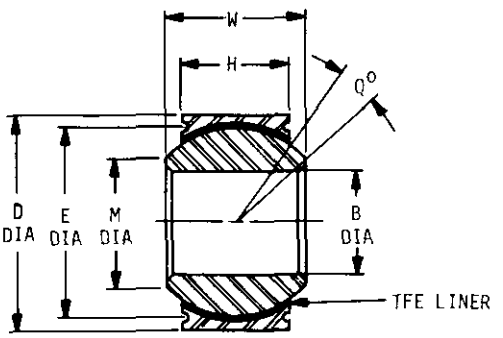
BEARING, PLAIN, SELF-LUBRICATING,

SELF-ALIGNING, LOW SPEED,

WIDE, GROOVED OUTER RING,

-65°F TO +325°F

APPLICABLE DOCUMENT: MS14103



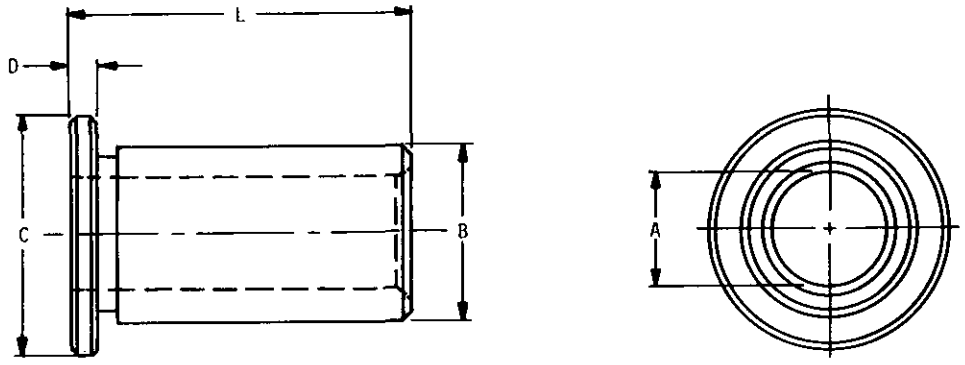
BEARING PART	MATERIAL	HARDNESS
BALL	440C PH13 - 8MO	RC 55 - 62 RC 43 - 47
OUTER RING	17-4PH	RC 28 TO 37

B	D	E	H	M	Q° MIN	W	DASH NO.
.1900	.6250	.565	.327	.300	15	.437	-3
.2500							-4
.3125	.6875	.627	.317	.360	14		-5
.3750	.8125	.714	.406	.466	8	.500	-6
.4375	.9375	.839	.442	.537	10	.562	-7
.4375	.9062	.808	.442	.537	10	.562	-7A
.5000	1.0000	.902	.505	.607	9	.625	-8
.5625	1.1250	1.027	.536	.721	10	.687	-9
.6250	1.1875	1.089	.567	.747	12	.750	-10
.7500	1.3750	1.253	.630	.845	13	.875	-12
.8750	1.6250	1.503	.755	.995	6	.875	-14
1.0000	2.1250	2.003	1.005	1.269	12	1.375	-16

SECTION 301

BEARING, SLEEVE: FLANGED, BRONZE

APPLICABLE DOCUMENT: MS35772



MATERIAL
BRONZE

A-BODY, INSIDE DIAMETER		1/4	3/8	1/2	9/16	5/8	11/16
B-BODY, OUTSIDE DIA	MAX	.4405	.5655	.6905	.753	.8155	.878
	MIN	.4395	.5645	.6895	.752	.8145	.877
C-FLANGE DIAMETER		9/16	11/16	13/16	15/16	1	1-1/16
D-FLANGE THICKNESS		3/32	3/32	3/32	3/32	3/32	3/32
		MS35772					
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
5/16		-1	--	--	--	--	--
3/8		-2	-17	-36	--	--	--
7/16		-3	-18	-37	--	--	--
1/2		--	-19	-38	--	--	--
9/16		--	-20	-39	--	--	--
5/8		--	-21	-40	-47	-56	-65
3/4		--	--	-41	-48	-57	-66
7/8		--	--	-42	-49	-58	-67
1		--	--	--	-50	-59	-68
1-1/8		--	--	--	--	-60	-69
1-3/8		--	--	--	--	--	-70

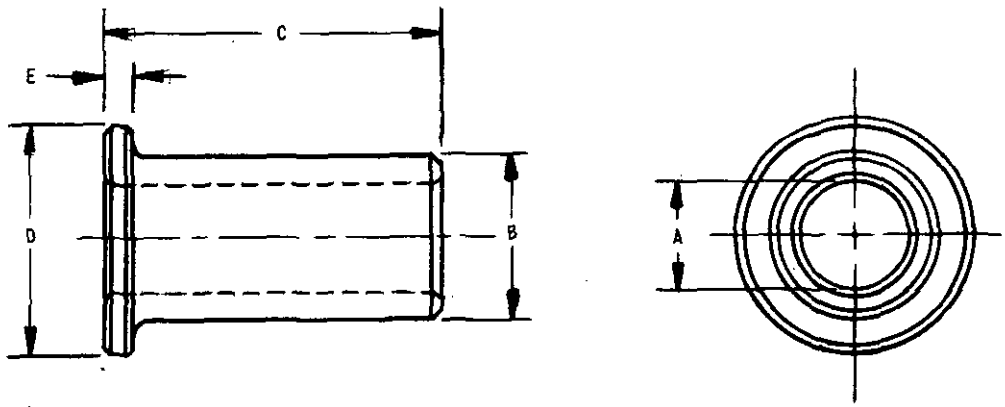
A-BODY, INSIDE DIAMETER		3/4	7/8	1	1-1/8	1-1/4	1-1/2
B-BODY, OUTSIDE DIA	MAX	1.003	1.128	1.253	1.378	1.503	1.8155
	MIN	1.002	1.127	1.252	1.377	1.502	1.8145
C-FLANGE DIAMTER		1-1/4	1-3/8	1-1/2	1-5/8	1-3/4	2-1/8
D-FLANGE THICKNESS		1/8	1/8	1/8	1/8	1/8	5/32
		MS35772					
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
3/4		-75	-84	--	--	--	--
7/8		-76	-85	-94	-104	--	--
1		-77	-86	-95	-105	-114	--
1-1/8		-78	-87	-96	-106	-115	--
1-3/8		-79	-88	-97	-107	-116	-133
1-5/8		--	-89	-98	-108	-117	-134
1-7/8		--	--	-99	-109	-118	-135
2-1/8		--	--	--	--	-119	-136
2-3/8		--	--	--	--	--	-137

A-BODY, INSIDE DIAMETER		2	2-1/4	2-1/2	3	3-1/2	4
B-BODY, OUTSIDE DIA	MAX	2.378	2.628	2.878	3.380	4.005	4.505
	MIN	2.377	2.627	2.877	3.378	4.003	4.503
C-FLANGE DIAMETER		2-3/4	3	3-1/4	3-3/4	4-1/2	5
D-FLANGE THICKNESS		3/16	3/16	3/16	3/16	1/4	1/4
		MS35772					
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
1-5/8		-152	--	--	--	--	--
1-7/8		-153	-162	--	--	--	--
2-1/8		-154	-163	-171	-191	--	--
2-3/8		-155	-164	-172	-192	--	--
2-5/8		-156	-165	-173	-193	--	--
3-1/8		-157	-166	-174	-194	--	--
3-1/4		--	--	-175	-195	-202	-209
3-5/8		--	--	-176	-196	-203	-210
4-1/4		--	--	--	-197	-204	-211
5-1/4		--	--	--	--	--	-212

SECTION 302

BEARING, SLEEVE, FLANGE TYPE, SINTERED BRONZE, OIL IMPREGNATED

APPLICABLE DOCUMENT: MS17796



MATERIAL	HARDNESS
SINTERED BRONZE	30-70 ROCKWELL H

NOMINAL I.D.	3/32		1/8				3/16			
A, BASIC, I.D.	.095		.126				.189			
B, BASIC, O.D.	.158		.189		.252		.252		.315	
D, FLANGE, O.D.	3/16		1/4		3/8		3/8		7/16	
E, FLANGE, THCK	1/8		1/8		1/8		1/8		1/8	
C LENGTH	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS
1/8	-1	75	-4	96	-7	65	—	—	—	—
3/16	-2	125	-5	160	-8	130	-11	240	—	—
1/4	-3	175	-6	222	-9	193	-12	336	-16	290
5/16	—	—	—	—	-10	255	-13	433	-17	387
3/8	—	—	—	—	—	—	-14	530	-18	484
7/16	—	—	—	—	—	—	-15	625	-19	582
1/2	—	—	—	—	—	—	—	—	-20	680

NOMINAL I.D.	1/4				5/16				3/8	
A, BASIC I.D.	.251				.314				.377	
B, BASIC O.D.	.377		.440		.440		.503		.503	
D, FLANGE O.D.	15/32		9/16		9/16		11/16		5/8	
E, FLANGE THCK	1/16		1/16		1/16		3/32		1/16	
C LENGTH	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS
1/4	-21	390	-27	390	-33	485	-39	405	-45	580
5/16	-22	520	-28	520	-34	645	-40	570	-46	775
3/8	-23	645	-29	645	-35	805	-41	730	-47	965
7/16	-24	780	-30	780	-36	970	-42	890	-48	1160
1/2	-25	910	-31	910	-37	1130	-43	1060	-49	1355
5/8	-26	1165	-32	1165	-38	1450	-44	1375	-50	1740
3/4	—	—	—	—	—	—	—	—	-51	2125

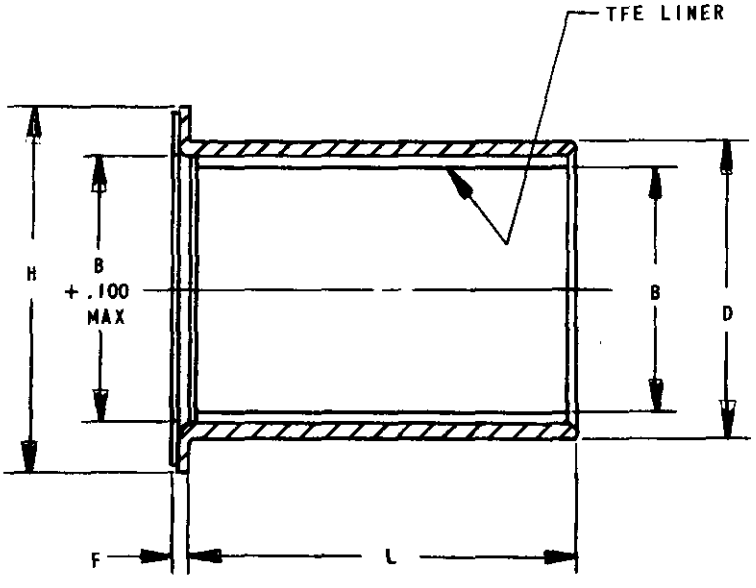
NOMINAL, I.D.	3/8		7/16		1/2				5/8	
A, BASIC, I.D.	.377		.439		.502				.627	
B, BASIC, O.D.	.628		.565		.628		.753		.753	
D, FLANGE O.D.	7/8		3/4		3/4		15/16		1	
E, FLANGE THCK	1/8		1/16		1/16		1/8		3/32	
C LENGTH	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS
5/16	-52	580	—	—	—	—	—	—	—	—
3/8	-53	775	-58	1130	-63	1290	—	—	—	—
7/16	-54	965	-59	1360	-64	1550	—	—	—	—
1/2	-55	1160	-60	1585	-65	1810	-70	1550	-75	2095
5/8	-56	1545	-61	2035	-66	2325	-71	2070	-76	2740
3/4	-57	1920	-62	2490	-67	2840	-72	2580	-77	3385
7/8	—	—	—	—	-68	3355	-73	3100	-78	4025
1	—	—	—	—	-69	3870	-74	3615	-79	4670

NOMINAL I.D.	5/8		3/4				7/8		1	
A, BASIC I.D.	.627		.752				.877		1.002	
B, BASIC O.D.	.878		.941		1.003		1.003		1.254	
D, FLANGE O.D.	1-1/8		1-3/16		1-1/2		1-1/4		1-5/8	
E, FLANGE THCK	1/8		1/8		1/8		1/8		1/8	
C LENGTH	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS
1/2	-80	1935	-87	2325	- 94	2325	—	—	—	—
5/8	-81	2580	-88	3100	- 95	3100	-104	3610	—	—
3/4	-82	3220	-89	3870	- 96	3870	-105	4510	-111	5155
7/8	-83	3865	-90	4645	- 97	4645	-106	5415	—	—
1	-84	4510	-91	5420	- 98	5420	-107	6315	-112	7220
1-1/8	-85	5155	-92	6195	- 99	6195	—	—	—	—
1-1/4	-86	5800	-93	6970	-100	6970	-108	8120	-113	9275
1/3/8	—	—	—	—	-101	7740	—	—	—	—
1-1/2	—	—	—	—	-102	8510	-109	9925	-114	11345
1-3/4	—	—	—	—	-103	10065	-110	11730	-115	13405
2	—	—	—	—	—	—	—	—	-116	15470

NOMINAL I.D.	1		1-1/4		1-1/2		1-3/4	
A, BASIC I.D.	1.002		1.252		1.502		1.753	
B, BASIC O.D.	1.379		1.504		1.754		2.254	
D, FLANGE O.D.	1-3/4		1-3/4		2		3	
E, FLANGE THCK	3/16		3/16		1/8		1/4	
C LENGTH	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS	MS17796 DASH NO.	STATIC CAP LBS
3/4	-117	4640	—	—	—	—	—	—
1	-118	6705	-123	8380	—	—	—	—
1-1/4	-119	8760	-124	10950	—	—	—	—
1-1/2	-120	10730	-125	13540	-129	17015	—	—
1-3/4	-121	12895	-126	16120	—	—	-132	21660
2	-122	14955	-127	18695	-130	23200	-133	25270
2-1/2	—	—	-128	23850	-131	29390	-134	32485
3	—	—	—	—	—	—	-135	39705

BEARING, SLEEVE, FLANGED, TFE LINED

APPLICABLE DOCUMENT: MS21241



MATERIAL	PROTECTIVE FINISH
ALUMINUM ALLOY	ANODIZE
CRES	—

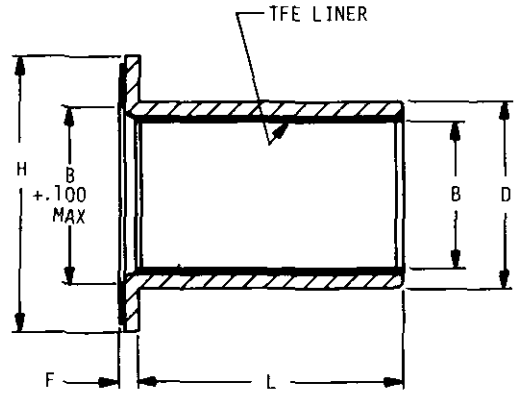
TEMPERATURE RANGE: - 65 F TO 250 F

DASH NO.	NOM. SIZE	B DIA	D DIA	F	H DIA	LENGTH DASH NO.																						
						1/4	9/32	5/16	11/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2	1-3/4	2
-04	1/4	.2515	.3760	.0625	.750	008	009	010	011	012	014													
-05	5/16	.3140	.4386	.0625	.812	008	009	010	011	012	014	016	018											
-06	3/8	.3765	.5012	.0625	.875	008	009	010	011	012	014	016	018	020	022									
-07	7/16	.4390	.5638	.0625	.937	008	009	010	011	012	014	016	018	020	022	024	028							
-08	1/2	.5015	.6265	.0625	1.000	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040	044	048	056	064
-09	9/16	.5640	.6892	.0625	1.125	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040		048	056	064
-10	5/8	.6265	.8142	.0625	1.250	008	009	010		012	014	016	018	020	022	024	028	032	036	040		048	056	064
-12	3/4	.7515	.9393	.0625	1.500	008				012	014	016		020		024		032		040		048	056	064
-14	7/8	.8765	1.0645	.0625	1.625	008				012	014	016		020		024		032		040		048	056	064
-16	1	1.0015	1.1898	.0625	1.750	008				012	014	016		020		024		032		040		048	056	064
-18	1-1/8	1.1265	1.3148	.0937	1.875					012	014	016		020		024		032		040		048	056	064
-20	1-1/4	1.2515	1.4398	.0937	2.000					012	014	016		020		024		032		040		048	056	064
-22	1-3/8	1.3765	1.5648	.0937	2.125					012	014	016		020		024		032		040		048	056	064
-24	1-1/2	1.5015	1.7523	.0937	2.250					012	014	016		020		024		032		040		048	056	064
-26	1-5/8	1.6265	1.8773	.0937	2.375							016		020		024		032		040		048	056	064
-28	1-3/4	1.7515	2.0023	.0937	2.500							016		020		024		032		040		048	056	064
-32	2	2.0015	2.2523	.0937	2.750							016		020		024		032		040		048	056	064

SECTION 304

BEARINGS, SLEEVE, FLANGED, SELF-LUBRICATING, 325°F

APPLICABLE DOCUMENT: MIL-B-81934/2



MATERIAL	PROTECTIVE FINISH
ALUMINUM ALLOY	ANODIZE
CRES	NONE

TEMPERATURE RANGE: -65°F TO +325°F

DASH NO.	NOM SIZE	B DIA	D DIA	F	H DIA	LENGTH DASH NO.								
						1/4	9/32	5/16	11/32	3/8	7/16	1/2	9/16	5/8
-04	1/4	.2515	.3760	.0625	.750	008	009	010	011	012	014			
-05	5/16	.3140	.4386	.0625	.812	008	009	010	011	012	014	016	018	
-06	3/8	.3765	.5012	.0625	.875	008	009	010	011	012	014	016	018	020
-07	7/16	.4390	.5638	.0625	.937	008	009	010	011	012	014	016	018	020
-08	1/2	.5015	.6265	.0625	1.000	008	009	010	011	012	014	016	018	020
-09	9/16	.5640	.6892	.0625	1.125	008	009	010	011	012	014	016	018	020
-10	5/8	.6265	.8142	.0625	1.250	008	009	010	011	012	014	016	018	020
-11	11/16	.6890	.8767	.0625	1.375	008	009	010	011	012	014	016	018	020
-12	3/4	.7515	.9393	.0625	1.500	008	009	010	011	012	014	016	018	020
-14	7/8	.8765	1.0645	.0625	1.625	008	009	010	011	012	014	016	018	020
-16	1	1.0015	1.1898	.0625	1.750	008	009	010	011	012	014	016	018	020
-18	1-1/8	1.1265	1.3148	.0937	1.875			010	011	012	014	016	018	020
-20	1-1/4	1.2515	1.4398	.0937	2.000					012	014	016	018	020
-22	1-3/8	1.3765	1.5648	.0937	2.125					012	014	016	018	020
-24	1-1/2	1.5015	1.7523	.0937	2.250					012	014	016	018	020
-26	1-5/8	1.6265	1.8773	.0937	2.375							016	018	020
-28	1-3/4	1.7515	2.0023	.0937	2.500							016	018	020
-32	2	2.0015	2.2523	.0937	2.750							016	018	020

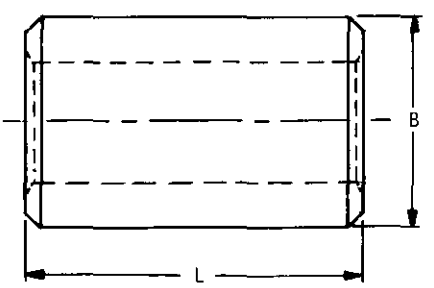
DASH NO.	NOM SIZE	B DIA	D DIA	F	H DIA	LENGTH DASH NO.								
						11/16	3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2	1-5/8
-04	1/4	.2515	.3760	.0625	.750									
-05	5/16	.3140	.4386	.0625	.812									
-06	3/8	.3765	.5012	.0625	.875	022								
-07	7/16	.4390	.5638	.0625	.937	022	024	028						
-08	1/2	.5015	.6265	.0625	1.000	022	024	028						
-09	9/16	.5640	.6892	.0625	1.125	022	024	028	032	036				
-10	5/8	.6265	.8142	.0625	1.250	022	024	028	032	036	040	044		
-11	11/16	.6890	.8767	.0625	1.375	022	024	028	032	036	040	044	048	052
-12	3/4	.7515	.9393	.0625	1.500	022	024	028	032	036	040	044	048	052
-14	7/8	.8765	1.0645	.0625	1.625	022	024	028	032	036	040	044	048	052
-16	1	1.0015	1.1898	.0625	1.750	022	024	028	032	036	040	044	048	052
-18	1-1/8	1.1265	1.3148	.0937	1.875	022	024	028	032	036	040	044	048	052
-20	1-1/4	1.2515	1.4398	.0937	2.000	022	024	028	032	036	040	044	048	052
-22	1-3/8	1.3765	1.5648	.0937	2.125	022	024	028	032	036	040	044	048	052
-24	1-1/2	1.5015	1.7523	.0937	2.250	022	024	028	032	036	040	044	048	052
-26	1-5/8	1.6265	1.8773	.0937	2.375	022	024	028	032	036	040	044	048	052
-28	1-3/4	1.7515	2.0023	.0937	2.500	022	024	028	032	036	040	044	048	052
-32	2	2.0015	2.2523	.0937	2.750	022	024	028	032	036	040	044	048	052

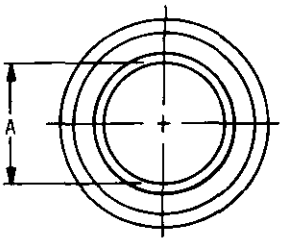
DASH NO.	NOM SIZE	B DIA	D DIA	F	H DIA	LENGTH DASH NO.								
						1-3/4	1-7/8	2	2-1/8	2-1/4	2-3/8	2-1/2	2-3/4	3
-04	1/4	.2515	.3760	.0625	.750									
-05	5/16	.3140	.4386	.0625	.812									
-06	3/8	.3765	.5012	.0625	.875									
-07	7/16	.4390	.5638	.0625	.937									
-08	1/2	.5015	.6265	.0625	1.000									
-09	9/16	.5640	.6892	.0625	1.125									
-10	5/8	.6265	.8142	.0625	1.250									
-11	11/16	.6890	.8767	.0625	1.375									
-12	3/4	.7515	.9393	.0625	1.500									
-14	7/8	.8765	1.0645	.0625	1.625									
-16	1	1.0015	1.1898	.0625	1.750	056	060							
-18	1-1/8	1.1265	1.3148	.0937	1.875	056	060							
-20	1-1/4	1.2515	1.4398	.0937	2.000	056	060	064	068					
-22	1-3/8	1.3765	1.5648	.0937	2.125	056	060	064	068					
-24	1-1/2	1.5015	1.7523	.0937	2.250	056	060	064	068	072	076	080	088	
-26	1-5/8	1.6265	1.8773	.0937	2.375	056	060	064	068	072	076	080	088	096
-28	1-3/4	1.7515	2.0023	.0937	2.500	056	060	064	068	072	076	080	088	096
-32	2	2.0015	2.2523	.0937	2.750	056	060	064	068	072	076	080	088	096

SECTION 305

BEARING, SLEEVE: PLAIN, BRONZE

APPLICABLE DOCUMENT: MS35771





MATERIAL
BRONZE

A-BODY, INSIDE DIAMETER		1/4	3/8	1/2	9/16	5/8	11/16	3/4	7/8
B-BODY, OUTSIDE DIA	MAX	.4405	.5655	.6905	.753	.8155	.878	1.003	1.128
	MIN	.4395	.5645	.6895	.752	.8145	.877	1.002	1.127
		MS35771							
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
1/2		-8	-25	-46	-55	-65	-75	--	-96
5/8		-9	-26	-47	-56	-66	-76	-85	-97
3/4		-10	-27	-48	-57	-67	-77	-86	-98
1		-11	-28	-49	-58	-68	-78	-87	-99
1-1/4		-12	-29	-50	-59	-69	-79	-88	-100
1-1/2		--	--	--	--	-70	-80	-89	-101
1-3/4		--	--	--	--	-71	-81	-90	--
2		--	--	--	--	-72	-82	-91	--

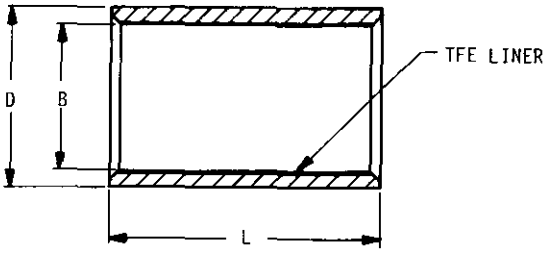
A-BODY, INSIDE DIAMETER		1	1-1/8	1-1/4	1-1/2	2
B-BODY, OUTSIDE DIA	MAX	1.253	1.378	1.503	1.8155	2.378
	MIN	1.252	1.377	1.502	1.8145	2.377
		MS35771				
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
3/4		-106	-116	--	--	--
1		-107	-117	-127	--	--
1-1/4		-108	-118	-128	-150	--
1-1/2		-109	-119	-129	-151	-182
1-3/4		-110	-120	-130	-152	-183
2		-111	-121	-131	-153	-184
2-1/4		--	-122	-132	-154	-185
2-1/2		--	--	-133	-155	-186
2-3/4		--	--	--	-156	-187
3		--	--	--	--	-188

A-BODY, INSIDE DIAMETER		2-1/4	2-1/2	3	3-1/2	4
B-BODY, OUTSIDE DIA	MAX	2.628	2.878	3.380	4.005	4.505
	MIN	2.627	2.877	3.378	4.003	4.503
		MS35771				
L-LENGTH		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
1-3/4		-193	--	--	--	--
2		-194	-203	-223	--	--
2-1/4		-195	-204	-224	--	--
2-1/2		-196	-205	-225	-234	--
2-3/4		-197	-206	-226	-235	--
3		-198	-207	-227	-236	-245
3-1/2		--	-208	-228	-237	-246
4		--	--	-229	-238	-247
4-1/2		--	--	--	--	-248
5		--	--	--	--	-249

SECTION 306

BEARINGS, SLEEVE, PLAIN, SELF-LUBRICATING, 325°F

APPLICABLE DOCUMENT: MIL-B-81934/1



MATERIAL	PROTECTIVE FINISH
ALUMINUM ALLOY	ANODIZE
CRES	NONE

TEMPERATURE RANGE: -65°F to +325°F

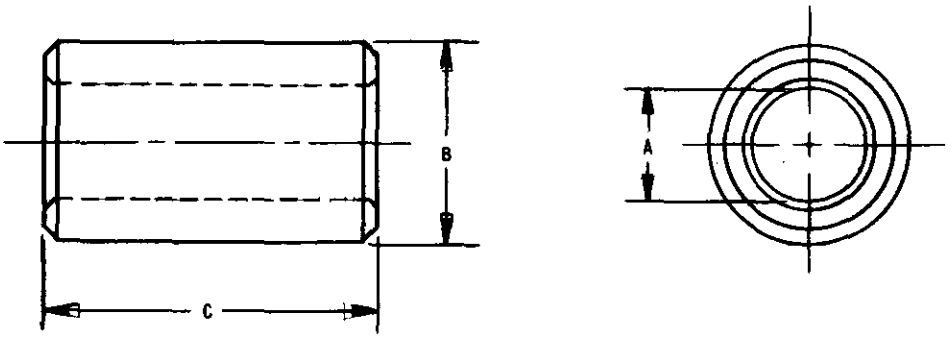
DASH NO.	NOM SIZE	B DIA	D DIA	LENGTH DASH NOS.														
				1/4	9/32	5/16	11/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1	1-1/8	1-1/4
-04	1/4	.2515	.3760	008	009	010	011	012	014	--	--	--	--	--	--	--	--	--
-05	5/16	.3140	.4386	008	009	010	011	012	014	016	018	--	--	--	--	--	--	--
-06	3/8	.3765	.5012	008	009	010	011	012	014	016	018	020	022	--	--	--	--	--
-07	7/16	.4390	.5638	008	009	010	011	012	014	016	018	020	022	024	028	--	--	--
-08	1/2	.5015	.6265	008	009	010	011	012	014	016	018	020	022	024	028	--	--	--
-09	9/16	.5640	.6892	008	009	010	011	012	014	016	018	020	022	024	028	032	036	--
-10	5/8	.6265	.8142	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040
-11	11/16	.6890	.8767	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040
-12	3/4	.7515	.9393	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040
-14	7/8	.8765	1.0645	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040
-16	1	1.0015	1.1898	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040
-18	1-1/8	1.1265	1.3148	--	--	010	011	012	014	016	018	020	022	024	028	032	036	040
-20	1-1/4	1.2515	1.4398	--	--	--	--	012	014	016	018	020	022	024	028	032	036	040
-22	1-3/8	1.3765	1.5648	--	--	--	--	012	014	016	018	020	022	024	028	032	036	040
-24	1-1/2	1.5015	1.7523	--	--	--	--	012	014	016	018	020	022	024	028	032	036	040
-26	1-5/8	1.6265	1.8773	--	--	--	--	--	--	016	018	020	022	024	028	032	036	040
-28	1-3/4	1.7515	2.0023	--	--	--	--	--	--	016	018	020	022	024	028	032	036	040
-32	2	2.0015	2.2523	--	--	--	--	--	--	016	018	020	022	024	028	032	036	040

DASH NO.	NOM SIZE	B DIA	D DIA	LENGTH DASH NO.											
				1-3/8	1-1/2	1-5/8	1-3/4	1-7/8	2	2-1/8	2-1/4	2-3/8	2-1/2	2-3/4	3
-10	5/8	.6265	.8142	044	--	--	--	--	--	--	--	--	--	--	--
-11	11/16	.6890	.8767	044	048	052	--	--	--	--	--	--	--	--	--
-12	3/4	.7515	.9393	044	048	052	--	--	--	--	--	--	--	--	--
-14	7/8	.8765	1.0645	044	048	052	--	--	--	--	--	--	--	--	--
-16	1	1.0015	1.1898	044	048	052	056	060	--	--	--	--	--	--	--
-18	1-1/8	1.1265	1.3148	044	048	052	056	060	--	--	--	--	--	--	--
-20	1-1/4	1.2515	1.4398	044	048	052	056	060	064	068	--	--	--	--	--
-22	1-3/8	1.3765	1.5648	044	048	052	056	060	064	068	--	--	--	--	--
-24	1-1/2	1.5015	1.7523	044	048	052	056	060	064	068	072	076	080	088	--
-26	1-5/8	1.6265	1.8773	044	048	052	056	060	064	068	072	076	080	088	096
-28	1-3/4	1.7515	2.0023	044	048	052	056	060	064	068	072	076	080	088	096
-32	2	2.0015	2.2523	044	048	052	056	060	064	068	072	076	080	088	096

SECTION 307

BEARING, SLEEVE, PLAIN TYPE, SINTERED BRONZE, OIL IMPREGNATED

APPLICABLE DOCUMENT: MS17795



MATERIAL	HARDNESS
SINTERED BRONZE	30-70 ROCKWELL H

NOMINAL I.D.	1/8			3/16			1/4		
A, BASIC I.D.	.126			.189			.251		
B, BASIC O.D.	.189		.252	.252		.315	.377		.440
C LENGTH	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.
1/8	-2	129	-5	- 9	193	—	—	—	—
3/16	—	194	-6	-10	290	-15	-21	387	—
1/4	-4	258	-7	-11	387	-16	-22	516	-29
5/16	—	323	-8	—	484	-17	-23	645	—
3/8	—	—	—	-13	582	-18	-24	774	-31
7/16	—	—	—	-14	679	—	—	—	—
1/2	—	—	—	—	774	-20	-26	1031	-33
5/8	—	—	—	—	—	—	-27	1290	-34
3/4	—	—	—	—	—	—	—	1548	-35

NOMINAL I.D.	5/16		3/8			7/16		1/2		
A, BASIC I.D.	.314		.377			.439		.50		
B, BASIC O.D.	.440		.503		.628	.565		.628		.753
C LENGTH	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.
1/4	-36	644	-43	772	-52	—	—	—	—	—
5/16	—	805	-44	965	—	—	—	—	—	—
3/8	-38	966	-45	1158	-54	-62	1356	-70	1548	-78
7/16	—	1127	-46	1351	—	-63	1582	-71	1806	—
1/2	-40	1288	-47	1546	-56	-64	1808	-72	2063	-79
5/8	-41	1610	-48	1930	-57	-65	2260	-73	2580	-80
3/4	-42	1932	-49	2316	-58	-66	2712	-74	3096	-81
7/8	—	—	-50	2702	-59	-67	3164	-75	3612	-82
1	—	—	-51	3094	-60	-68	3610	-76	4125	-83
1-1/4	—	—	—	3865	-61	-69	4514	-77	5157	-84
1-1/2	—	—	—	—	—	—	—	—	6188	-85

NOMINAL I.D.	9/16		5/8			3/4			7/8	
A, BASIC I.D.	.564		.627			.752			.877	
B, BASIC O.D.	.690		.753		.878	.878		1.003	1.003	
C LENGTH	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS
1/2	-86	2320	-93	2576	-100	-108	3096	-116	—	—
5/8	-87	2900	-94	3220	-101	-109	3870	-117	-125	4510
3/4	-88	3480	-95	3864	-102	-110	4644	-118	-126	5412
7/8	—	4060	-96	4508	-103	-111	5418	-119	-127	6314
1	-90	4641	-97	5155	-104	-112	6188	-120	-128	7218
1-1/4	-91	5800	-98	6443	-105	-113	7736	-121	-129	9022
1-1/2	-92	6961	-99	7731	-106	-114	9284	-122	-130	10826
1-3/4	—	—	—	9019	-107	—	10825	-123	-131	12630
2	—	—	—	—	—	—	12376	-124	—	—

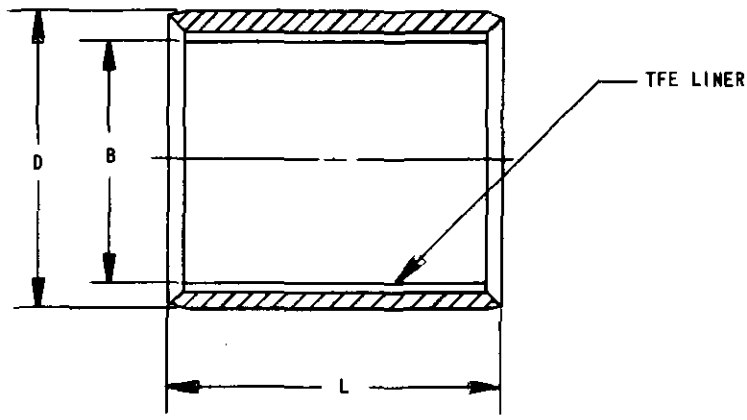
NOMINAL I.D.	1			1-1/8		1-1/4		1-3/8	
A, BASIC I.D.	1.002			1.127		1.252		1.377	
B, BASIC O.D.	1.129		1.254	1.379		1.504		1.629	
C LENGTH	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS
3/4	-132	6188	-139	—	—	—	—	—	—
7/8	—	7220	-140	—	—	—	—	—	—
1	-134	8250	-141	-148	9281	-155	10313	-164	11344
1-1/4	-135	10312	-142	-149	11601	-156	12893	-165	14180
1-1/2	-136	12375	-143	-150	13921	-157	15473	-166	17016
1-3/4	-137	14438	-144	-151	16241	-158	18053	—	—
2	-138	16500	-145	-152	18562	-159	20626	-168	22688
2-1/4	—	18562	-146	—	20822	-160	23206	—	—
2-1/2	—	20625	-147	-154	23202	-161	25786	-170	28360
3	—	—	—	—	—	-163	30939	-172	34032

NOMINAL I.D.	1-1/2		1-3/4		2		2-1/4		2-1/2	
A, BASIC I.D.	1.503		1.753		2.003		2.253		2.504	
B, BASIC O.D.	1.754		2.004		2.379		2.629		3.005	
C LENGTH	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS	MS17795 DASH NO.	STATIC CAP LBS
1	-173	12375	—	—	—	—	—	—	—	—
1-1/4	-174	15467	—	—	—	—	—	—	—	—
1-1/2	-175	18562	-182	21657	—	—	—	—	—	—
1-3/4	-176	21651	—	25267	-189	27050	—	—	—	—
2	-177	24750	-184	28877	-190	33000	-197	37124	-202	41250
2-1/4	-178	27844	—	—	—	—	—	—	—	—
2-1/2	-179	30937	-186	36096	-192	41250	-198	46400	-203	51560
2-3/4	-180	34031	—	—	-193	45375	—	—	—	—
3	-181	37125	-188	43315	-194	49500	-199	55685	-204	61875
3-1/2	—	—	—	—	-195	57750	—	—	-205	72190
4	—	—	—	—	-196	66000	—	—	-206	82500

SECTION 308

BEARING, SLEEVE,PLAIN, TFE LINED

APPLICABLE DOCUMENT: MS21240



MATERIAL	PROTECTIVE FINISH
ALUMINUM ALLOY	ANODIZE
CRES	NONE

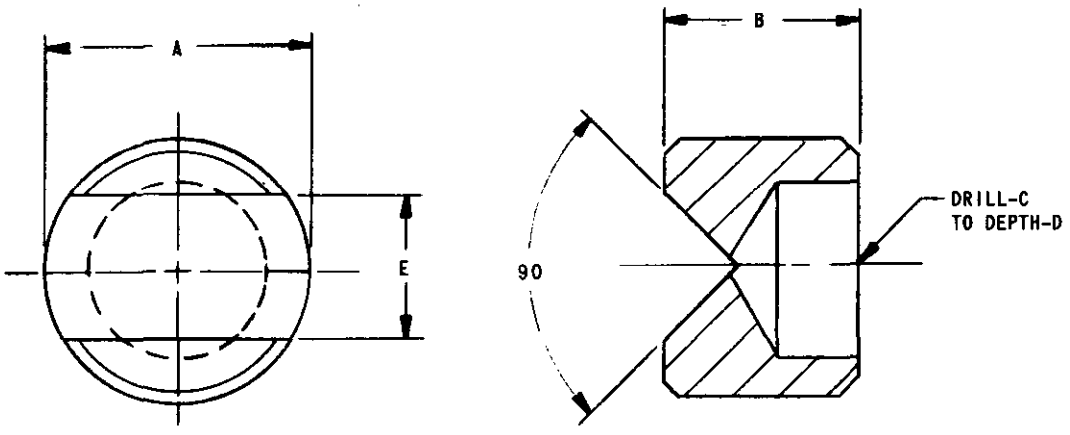
TEMPERATURE RANGE: -65°F TO +250°F

DASH NO.	NOMINAL SIZE	B DIA	D DIA	MS21240 LENGTH DASH NUMBER																		
				1/4	9/32	5/16	11/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2	1-3/4	2
-04	1/4	.2515	.3760	008	009	010	011	012	014													
-05	5/16	.3140	.4386	008	009	010	011	012	014	016	018											
-06	3/8	.3765	.5012	008	009	010	011	012	014	016	018	020	022									
-07	7/16	.4390	.5638	008	009	010	011	012	014	016	018	020	022	024	028							
-08	1/2	.5015	.6265	008	009	010	011	012	014	016	018	020	022	024	028							
-09	9/16	.5640	.6892	008	009	010	011	012	014	016	018	020	022	024	028	032	036					
-10	5/8	.6265	.8142	008	009	010	011	012	014	016	018	020	022	024	028	032	036	040	044			
-12	3/4	.7515	.9393	008				012		016		020		024		032		040		048		
-14	7/8	.8765	1.0645	008				012		016		020		024		032		040		048		
-16	1	1.0015	1.1898	008				012		016		020		024		032		040		048	056	
-18	1-1/8	1.1265	1.3148					012		016		020		024		032		040		048	056	
-20	1-1/4	1.2515	1.4398					012		016		020		024		032		040		048	056	064
-22	1-3/8	1.3765	1.5648					012		016		020		024		032		040		048	056	064
-24	1-1/2	1.5015	1.7523					012		016		020		024		032		040		048	056	064
-26	1-5/8	1.6265	1.8773							016		020		024		032		040		048	056	064
-28	1-3/4	1.7515	2.0023							016		020		024		032		040		048	056	064
-32	2	2.0015	2.2523							016		020		024		032		040		048	056	064

SECTION 401

V-BEARING (SPRING LOADED)

APPLICABLE DOCUMENT: MS35689



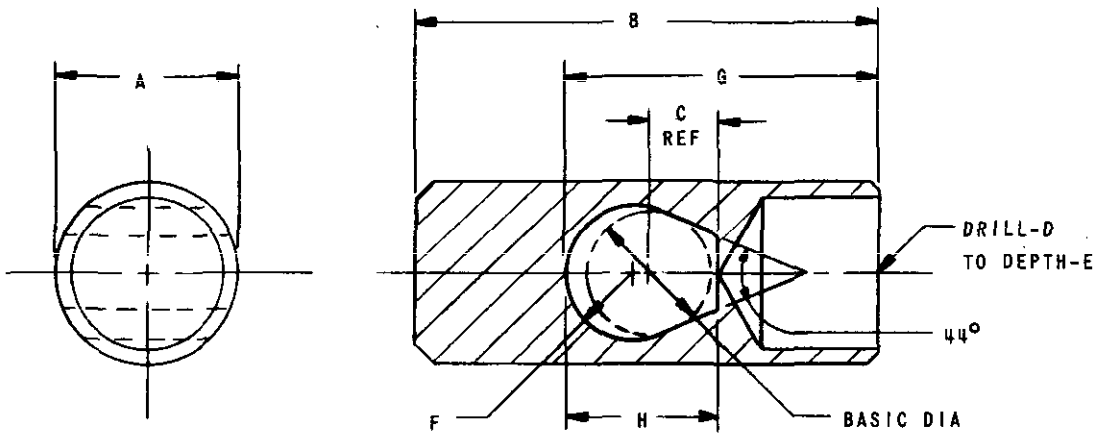
MATERIAL	PROTECTIVE FINISH
PHOSPHOR BRONZE	NONE

MS35689 DASH NUMBER	A DIA	B LENGTH	C DRILL SIZE	D DEPTH	E VEE WIDTH
— 1	.2498	23/64	3/16	15/64	.200
— 2	.2810	19/64	.209	9/64	.217
— 3	.3748	17/64	9/32	7/64	.303
— 4	.3748	31/64	5/16	21/64	.303
— 5	.4373	17/32	23/64	23/64	.371
— 6	.4685	13/32	3/8	11/64	.371
— 7	.8123	31/32	5/8	7/16	.618
— 8	.8123	21/32	5/8	9/32	.618

SECTION 402

V-BEARING (SPRING, LOADED THROW OUT TYPE)

APPLICABLE DOCUMENT: MS35688



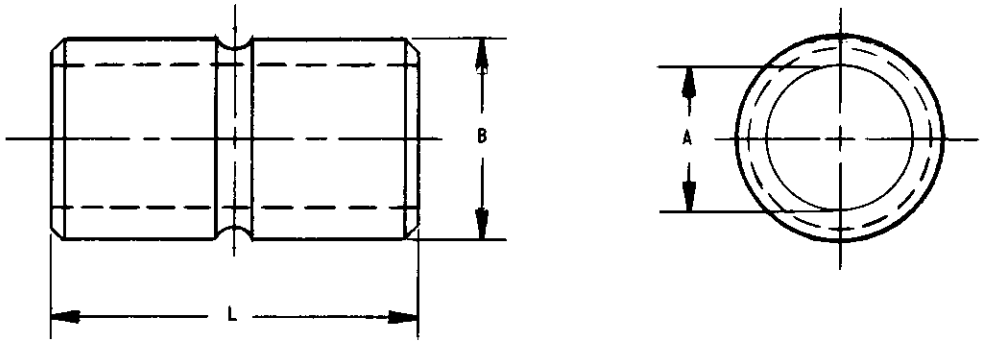
MATERIAL	PROTECTIVE FINISH
PHOSPHOR BRONZE	NONE

BASIC DIA	A DIA	B LENGTH	C REF DIM	D DRILL SIZE	E DEPTH	F RADIUS	G	H	MS35688 DASH NUMBER
.250	.3748	13/16	.152	5/16	1/4	.140	.655	.332	— 1
.250	.4060	27/32	.152	5/16	19/64	.140	.740	.332	— 2
.375	.6248	1 3/8	.219	1/2	1/2	.203	.980	.459	— 3

SECTION 501

BUSHING-CLAMP-UP, BRONZE

APPLICABLE DOCUMENT: NAS 74



MATERIAL	PROTECTIVE FINISH 1/
ALUMINUM BRONZE	CADMIUM PLATED

1/ ONLY PLATED BUSHINGS ARE APPROVED AS DELINEATED IN MIL-BULLETIN 147.

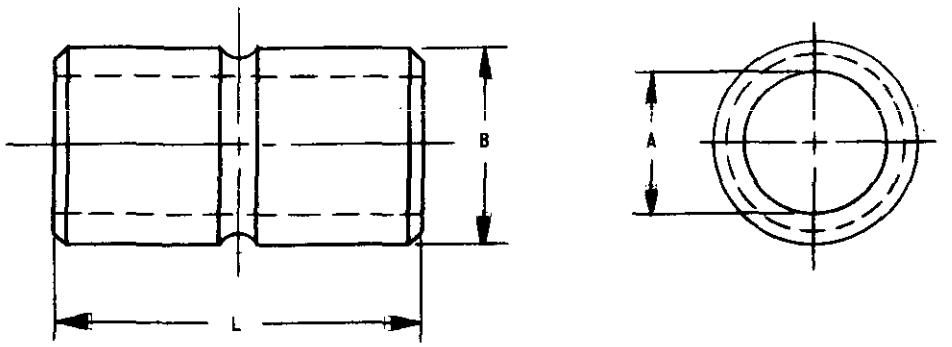
A		.190	.250	.3125	.375	.4375	.500	.5625	.625	.750	.875	1.000
B		.373	.4355	.498	.5605	.623	.6855	.748	.873	.998	1.123	1.248
LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16
002	.135	X	X					X				
003	.197	X	X									
004	.260	X	X									
005	.322	X	X	X	X	X	X	X				
006	.385	X	X	X	X	X	X	X				
007	.447	X	X	X	X	X	X	X				
008	.510	X	X	X	X	X	X	X				
009	.572	X	X	X	X	X	X	X				
010	.635	X	X	X	X	X	X	X				
011	.697	X	X	X	X	X	X	X				

LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16
012	.760	X	X	X	X	X	X	X				
013	.822	X	X	X	X	X	X	X				
014	.885	X	X	X	X	X	X	X				
015	.947	X	X	X	X	X	X	X				
100	1.010	X	X	X	X	X	X	X				
101	1.072	X	X	X	X	X	X	X				
102	1.135	X	X	X	X	X	X	X				
103	1.197	X	X	X	X	X	X	X				
104	1.260	X	X	X	X	X	X	X				
105	1.322	X	X	X	X	X	X	X				
106	1.385	X	X	X	X	X	X	X				
107	1.447	X	X	X	X	X	X	X				
108	1.510	X	X	X	X	X	X	X				
109	1.572	X	X	X	X	X	X	X				
110	1.635	X	X	X	X	X	X	X	X	X	X	X
111	1.697								X	X	X	X
112	1.760								X	X	X	X
113	1.822								X	X	X	X
114	1.885						X	X	X	X	X	X
115	1.947				X				X	X	X	X
202	2.135		X									
203	2.197				X							
204	2.260					X	X					
206	2.385			X								
212	2.760				X							
313	3.822									X		
315	3.947									X		

NOTES:
1. BUSHINGS UNDER .375 IN LENGTH SHALL NOT BE GROOVED.
2. THESE BUSHINGS ARE DESIGNED FOR CLAMPING TO THE SHAFT, WITH RELATIVE MOTION OCCURRING ON THE BUSHING O.D. ONLY.

BUSHING - CLAMP-UP, STEEL, CADMIUM PLATED

APPLICABLE DOCUMENT: NAS73



MATERIAL	PROTECTIVE FINISH
STEEL, ALLOY	CADMIUM PLATE

A		.190	.250	.3125	.375	.4375	.500	.5625	.625	.750	.875	1.000
B		.373	.4355	.498	.5605	.623	.6855	.748	.873	.998	1.123	1.248
LENGTH DASH NO.	L	NAS73 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16
-002	.135	X	X	X	X	X						X
-003	.197	X	X	X	X	X						X
-004	.260	X	X	X	X	X						X
-005	.322	X	X	X	X	X	X	X	X	X	X	X
-006	.385	X	X	X	X	X	X	X	X	X	X	X
-007	.447	X	X	X	X	X	X	X	X	X	X	X
-008	.510	X	X	X	X	X	X	X	X	X	X	X
-009	.572	X	X	X	X	X	X	X	X	X	X	X
-010	.635	X	X	X	X	X	X	X	X	X	X	X
-011	.697	X	X	X	X	X	X	X	X	X	X	X
-012	.760	X	X	X	X	X	X	X	X	X	X	X

LENGTH DASH NO.	L	NAS 73 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16
-013	.822	X	X	X	X	X	X	X	X	X	X	X
-014	.885	X	X	X	X	X	X	X	X	X	X	X
-015	.947	X	X	X	X	X	X	X	X	X	X	X
-100	1.010	X	X	X	X	X	X	X	X	X		X
-101	1.072	X	X	X	X	X	X	X	X			
-102	1.135	X	X	X	X	X	X	X	X			
-103	1.197	X	X	X	X	X	X	X	X			
-104	1.260	X	X	X	X	X	X	X	X			
-105	1.322	X	X	X	X	X	X	X	X	X	X	X
-106	1.385	X	X	X	X	X	X	X	X			
-107	1.447	X	X	X	X	X	X	X	X			
-108	1.510	X	X	X	X	X	X	X	X			
-109	1.572	X	X	X	X	X	X	X	X			
-110	1.635	X	X	X	X	X	X	X	X			
-111	1.697	X	X	X	X							
-112	1.760	X	X	X	X							
-113	1.822	X	X	X	X							
-114	1.885	X	X	X	X							
-115	1.947	X	X	X	X							
-200	2.010			X		X						
-201	2.072				X							
-209	2.572				X							
-210	2.635				X							
-213	2.822			X								
-214	2.885			X								
-300	3.010			X								
-304	3.260											
-307	3.447			X								

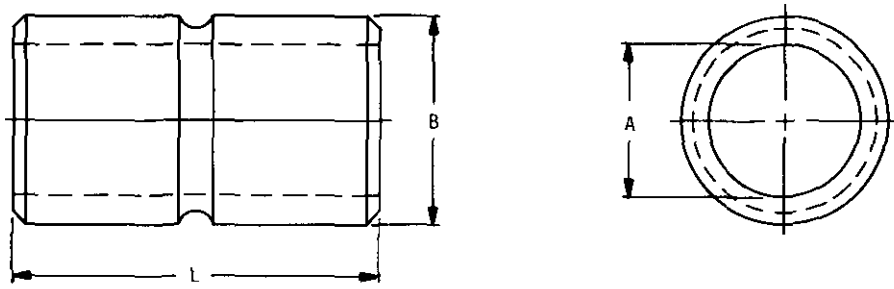
NOTES:

1. BUSHINGS UNDER .375 IN LENGTH SHALL NOT BE GROOVED.
2. BUSHINGS ARE DESIGNED FOR CLAMPING TO THE SHAFT WITH RELATIVE MOTION OCCURRING ON THE BUSHING O.D. ONLY.

SECTION 503

BUSHING-CLAMP-UP, STEEL, CHROME PLATED

APPLICABLE DOCUMENT NAS72



MATERIAL	PROTECTIVE FINISH
STEEL, ALLOY	CHROME PLATE

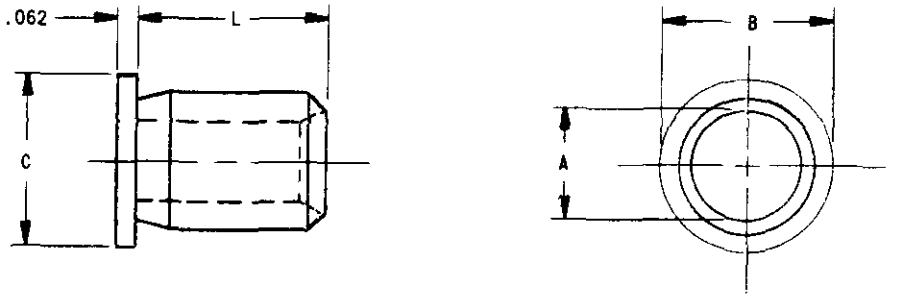
A		.190	.250	.3125	.375	.4375	.500	.5625	.625	.750	.875	1.000
B		.373	.4355	.498	.5605	.623	.6855	.748	.873	.998	1.123	1.248
LENGTH DASH NO.	L	NAS72 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16
-002	.135	X	X	X								
-003	.197	X	X	X								
-004	.260	X	X	X								
-005	.322	X	X	X	X	X	X					
-006	.385	X	X	X	X	X	X					
-007	.447	X	X	X	X	X	X					
-008	.510	X	X	X	X	X	X					
-009	.572	X	X	X	X	X	X					
-010	.635	X	X	X	X	X	X	X	X			
-011	.697	X	X					X	X			
-012	.760	X	X	X	X	X	X	X	X			
-013	.822	X	X	X	X	X	X	X	X			
-014	.885	X	X	X	X	X	X	X	X			
-015	.947	X	X	X	X	X	X	X	X			
-100	1.010	X	X	X	X	X	X	X	X	X	X	X
-101	1.072	X	X	X	X	X	X	X	X	X	X	X
-102	1.135	X	X	X	X	X	X	X	X	X	X	X
-103	1.197	X	X	X	X	X	X	X	X	X	X	X
-104	1.260	X	X	X	X	X	X	X	X	X	X	X
-105	1.322	X	X	X	X	X	X	X	X	X	X	X
-106	1.385	X			X	X	X	X	X	X	X	X
-107	1.447	X							X	X	X	X
-108	1.510	X			X	X	X			X	X	X
-109	1.572						X			X	X	X
-110	1.635						X			X	X	X
-111	1.697						X			X	X	X
-112	1.760						X			X	X	X
-113	1.822						X	X		X	X	X
-114	1.885						X			X	X	X
-115	1.947						X	X		X	X	X
-203	2.197					X						
-205	2.322				X							
-208	2.510			X								
-209	2.572				X							
-213	2.822			X								
-300	3.010			X								
-303	3.197								X			

NOTES:
1. BUSHINGS UNDER .375 IN LENGTH SHALL NOT BE GROOVED. ON BUSHINGS .375 AND LONGER GROOVING IS OPTIONAL.
2. BUSHINGS ARE DESIGNED FOR CLAMPING TO THE SHAFT, WITH RELATIVE MOTION OCCURRING ON THE BUSHING O.D. ONLY.

SECTION 504

BUSHING - FLANGED, PRESS FIT STEEL & BRONZE

APPLICABLE DOCUMENT: NAS 77



MATERIAL	PROTECTIVE FINISH 1/
ALUMINUM BRONZE	CADMIUM PLATE
STEEL ALLOY	

1/ ONLY PLATED BUSHINGS ARE APPROVED AS DELINEATED IN MIL-BULLETIN 147.

BOLT SIZE (REF)		#10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1-1/4
A		.1900	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.7500	.8750	1.0000	1.2500
B		.3136	.3761	.4386	.6265	.5638	.6265	.6892	.8142	.9393	1.0648	1.1898	1.4399
C		.437	.500	.562	.625	.687	.750	.812	1.000	1.125	1.250	1.375	1.625
LENGTH DASH NO.	L	SIZE DASH NO.											
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16	-20
- 5	.050	X	X	X	X	X	X						
- 6	.060	X	X	X	X	X	X						
- 7	.070	X	X	X	X	X	X						
- 8	.080	X	X	X	X	X	X						
- 9	.090	X	X	X	X	X	X						
-10	.100	X	X	X	X	X	X						
-11	.110	X	X	X	X	X	X						
-12	.120	X	X	X	X	X	X	X					
-13	.130	X	X	X	X	X	X	X					
-14	.140	X	X	X	X	X	X	X					

BOLT SIZE (REF)		#10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1-1/4
A		.1900	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.7500	.8750	1.0000	1.2500
B		.3136	.3761	.4386	.5013	.5638	.6265	.6892	.8142	.9393	1.0648	1.1898	1.4399
C		.437	.500	.562	.625	.687	.750	.812	1.000	1.125	1.250	1.375	1.625
LENGTH DASH NO.	L	SIZE DASH NO.											
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16	-20
-15	.150	X	X	X	X	X	X	X	X	X	X		
-16	.160	X	X	X	X	X	X	X	X				
-17	.170	X	X	X	X	X	X	X	X		X		
-18	.180	X	X	X	X	X	X	X	X	X			
-19	.190	X	X	X	X	X	X	X	X		X		
-20	.200	X	X	X	X	X	X	X	X				
-21	.210	X	X	X	X	X	X	X	X		X		
-22	.220	X	X	X	X	X	X	X	X				
-23	.230	X	X	X	X	X	X	X	X		X		
-24	.240	X	X	X	X	X	X	X	X				
-25	.250	X	X	X	X	X	X	X	X	X	X		
-26	.260	X	X	X	X	X	X	X	X				
-27	.270	X	X	X	X	X	X	X	X				
-28	.280	X	X	X	X	X	X	X	X				
-29	.290	X	X	X	X	X	X	X	X				
-30	.300	X	X	X	X	X	X	X	X			X	X
-31	.310	X	X	X	X	X	X	X	X	X			
-32	.320	X	X	X	X	X	X	X	X				
-33	.330	X	X	X	X	X	X	X	X				
-34	.340	X	X	X	X	X	X	X	X				
-35	.350	X	X	X	X	X	X	X	X			X	X
-36	.360	X	X	X	X	X	X	X	X		X		
-37	.370	X	X	X	X	X	X	X	X				
-38	.380	X	X	X	X	X	X	X	X	X			
-39	.390	X	X	X	X	X	X	X	X				
-40	.400	X	X	X	X	X	X	X	X			X	X
-41	.410		X	X	X	X	X	X	X				
-42	.420		X	X	X	X	X	X	X				
-43	.430		X	X	X	X	X	X	X			X	

BOLT SIZE (REF)	#10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1-1/4
A	.1900	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.7500	.8750	1.0000	1.2500
B	.3136	.3761	.4386	.5013	.5638	.6265	.6892	.8142	.9393	1.0648	1.1898	1.4399
C	.437	.500	.562	.625	.687	.750	.812	1.000	1.125	1.250	1.375	1.625

LENGTH DASH NO.	L	SIZE DASH NO.											
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16	-20
-44	.440		X	X	X	X	X	X	X			X	
-45	.450		X	X	X	X	X	X	X		X		X
-46	.460		X	X	X	X	X	X	X				
-47	.470		X	X	X	X	X	X	X			X	
-48	.480		X	X	X	X	X	X	X				
-49	.490		X	X	X	X	X	X	X		X		
-50	.500		X	X	X	X	X	X	X		X	X	X
-51	.510		X	X	X	X	X	X	X				
-52	.520		X	X	X	X	X	X	X	X			
-53	.530		X	X	X	X	X	X	X				X
-54	.540		X	X	X	X	X	X	X				
-55	.550		X	X	X	X	X	X	X				
-56	.560		X	X	X	X	X	X	X			X	
-58	.580		X		X						X		
-59	.590							X					
-60	.600		X				X						
-62	.620		X		X								X
-64	.640									X			
-65	.650		X								X		
-66	.660		X	X			X						
-67	.670						X						
-68	.680		X		X				X	X			
-69	.690			X								X	
-70	.700						X						
-72	.720				X								
-73	.730							X					
-74	.740				X	X							
-75	.750		X		X		X	X			X		
-78	.780		X										

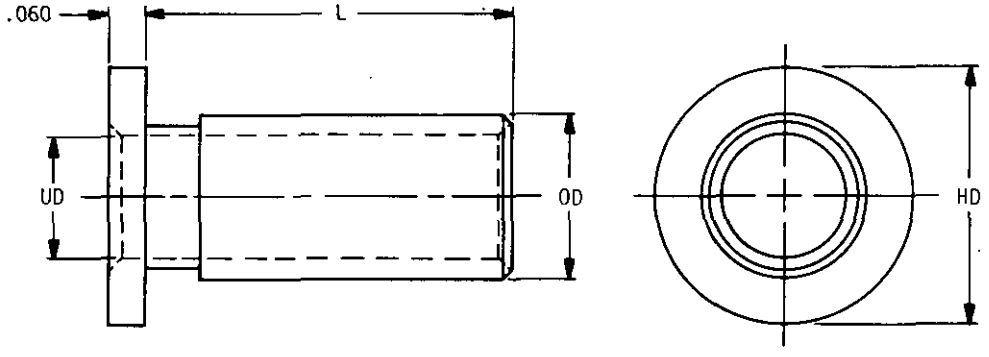
BOLT SIZE (REF)		#10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1-1/4
A		.1900	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.7500	.8750	1.0000	1.2500
B		.3136	.3761	.4386	.5013	.5638	.6265	.6892	.8142	.9393	1.0648	1.1898	1.4399
C		.437	.500	.562	.625	.687	.750	.812	1.000	1.125	1.250	1.375	1.625
LENGTH DASH NO.	L	SIZE DASH NO.											
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-14	-16	-20
- 79	.790												
- 80	.800		X										
- 82	.820		X				X						
- 84	.840						X						
- 85	.850		X					X			X		
- 86	.860								X				
- 87	.870		X										
- 88	.880						X		X				
- 90	.900		X						X				
- 92	.920						X						
- 95	.950			X									
- 97	.970								X				
-100	1.000		X						X		X	X	
-110	1.100							X					
-118	1.180					X							
-125	1.250								X				
-130	1.300		X										
-133	1.330								X				
-144	1.440		X										
-165	1.650		X								X		
-181	1.810								X				
-185	1.850			X									
-192	1.920								X				
-200	2.000				X								X
-203	2.003		X										
-210	2.100		X										
-262	2.620						X						

SECTION 505

BUSHING, FLANGED, PRESS FIT

UNDERSIZE INSIDE DIAMETER

APPLICABLE DOCUMENT: NAS538



MATERIAL	PROTECTIVE FINISH 1/
STEEL, ALLOY	CADMIUM PLATE

1/ ONLY PLATED BUSHINGS ARE APPROVED AS DELINEATED IN MIL-BULLETIN-147

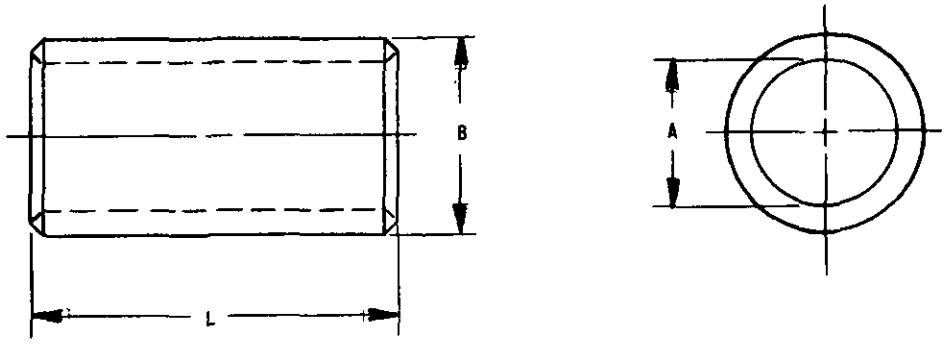
NOM DIA FOR REAM HOLE		.1900	.2500	.3145	.3750	.4375	.5000	.6250	.7500	.8750	1.0000	1.2500
HD		.447	.510	.572	.635	.697	.760	1.010	1.135	1.260	1.385	1.635
OD		.3136	.3761	.4386	.5013	.5638	.6265	.8142	.9393	1.0648	1.1898	1.4399
UD		.1790	.2380	.3010	.3590	.4220	.4840	.6090	.7340	.8590	.9840	1.2190
LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-10	-12	-14	-16	-20
-5	.050	X	X	X	X							
-6	.060	X	X	X	X							
-7	.070	X	X	X	X							
-8	.080	X	X	X	X							
-9	.090	X	X	X	X							
-10	.100	X	X	X	X	X	X	X				
-11	.110	X	X	X	X	X	X	X				
-12	.120	X	X	X	X	X	X	X				
-13	.130	X	X	X	X	X	X	X				
-14	.140	X	X	X	X	X	X	X				
-15	.150	X	X	X	X	X	X	X				
-16	.160	X	X	X	X	X	X	X				
-17	.170	X	X	X	X	X	X	X				
-18	.180	X	X	X	X	X	X	X				
-19	.190	X	X	X	X	X	X	X				
-20	.200	X	X	X	X	X	X	X				
-21	.210	X	X	X	X	X	X	X				
-22	.220	X	X	X	X	X	X	X				
-23	.230	X	X	X	X	X	X	X				
-24	.240	X	X	X	X	X	X	X				
-25	.250	X	X	X	X	X	X	X	X	X	X	X
-26	.260	X	X	X	X	X	X	X	X	X	X	X
-27	.270	X	X	X	X	X	X	X	X	X	X	X
-28	.280	X	X	X	X	X	X	X	X	X	X	X
-29	.290	X	X	X	X	X	X	X	X	X	X	X
-30	.300	X	X	X	X	X	X	X	X	X	X	X
-31	.310	X	X	X	X	X	X	X	X	X	X	X
-32	.320	X	X	X	X	X	X	X	X	X	X	X
-33	.330	X	X	X	X	X	X	X	X	X	X	X
-34	.340	X	X	X	X	X	X	X	X	X	X	X
-35	.350	X	X	X	X	X	X	X	X	X	X	X
-36	.360	X	X	X	X	X	X	X	X	X	X	X
-37	.370	X	X	X	X	X	X	X	X	X	X	X
-38	.380	X	X	X	X	X	X	X	X	X	X	X
-39	.390	X	X	X	X	X	X	X	X	X	X	X
-40	.400	X	X	X	X	X	X	X	X	X	X	X
-41	.410	X	X	X	X	X	X	X	X	X	X	X
-42	.420	X	X	X	X	X	X	X	X	X	X	X
-43	.430	X	X	X	X	X	X	X	X	X	X	X
-44	.440	X	X	X	X	X	X	X	X	X	X	X
-45	.450	X	X	X	X	X	X	X	X	X	X	X

LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-10	-12	-14	-16	-20
-46	.460	X	X	X	X	X	X	X	X	X	X	X
-47	.470	X	X	X	X	X	X	X	X	X	X	X
-48	.480	X	X	X	X	X	X	X	X	X	X	X
-49	.490	X	X	X	X	X	X	X	X	X	X	X
-50	.500	X	X	X	X	X	X	X	X	X	X	X
-51	.510								X	X	X	X
-52	.520									X	X	X
-53	.530						X			X	X	X
-54	.540							X		X	X	X
-55	.550					X	X			X	X	X
-56	.560		X				X			X	X	X
-57	.570									X	X	X
-58	.580									X	X	X
-59	.590									X	X	X
-60	.600					X				X	X	X
-61	.610							X				
-63	.630						X					
-67	.670							X				
-68	.680				X							
-70	.700				X		X					
-71	.710							X				
-73	.730				X							
-74	.740			X								
-75	.750		X		X	X					X	
-94	.940								X			
-100	1.000							X			X	
-101	1.010					X						
-105	1.050								X		X	
-118	1.180								X			
-120	1.200		X		X			X				
-128	1.280										X	
-135	1.350			X			X					
-140	1.400							X				
-149	1.490	X										
-150	1.500								X			
-160	1.600	X										
-178	1.780											X
-196	1.960							X				

SECTION 506

BUSHING-PLAIN, PRESS FIT, BRONZE

APPLICABLE DOCUMENT: NAS76



MATERIAL	PROTECTIVE FINISH 1/
ALUMINUM BRONZE	CADMIUM PLATE

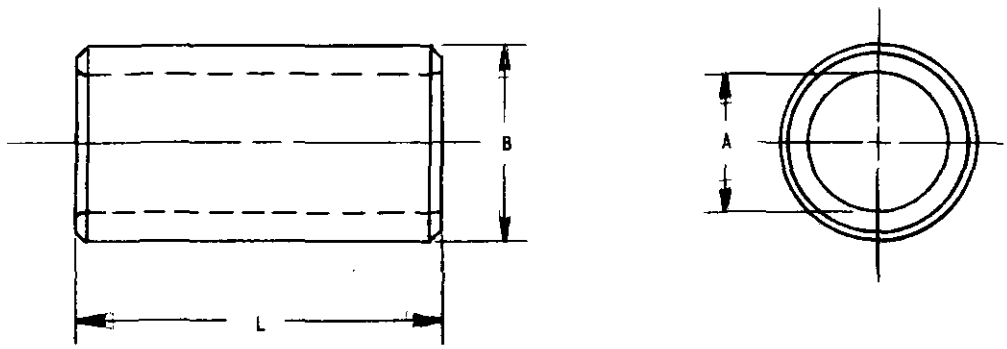
1/ ONLY PLATED BUSHINGS ARE APPROVED AS DELINEATED IN MIL-BULLETIN 147.

BOLT SIZE (REF)		10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	1
A		.190	.250	.3125	.375	.4375	.500	.5625	.625	.750	1.000
B		.3136	.3761	.4386	.5013	.5638	.6265	.6892	.8142	.9393	1.1898
LENGTH DASH NO.	L	NAS76 SIZE DASH NO.									
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-16
002	1/16			X							
003	3/32	X									
004	1/8	X	X	X							
005	5/32	X	X								
006	3/16	X	X		X						
007	7/32	X	X		X						
008	1/4	X	X		X	X	X	X	X	X	X
009	9/32	X	X		X						

LENGTH DASH NO.	L	NAS76 SIZE DASH NO.									
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-16
010	5/16	X	X		X	X	X	X	X		
011	11/32	X	X		X				X		
012	3/8	X	X		X	X	X	X	X	X	X
013	13/32	X	X								
014	7/16	X	X		X	X	X	X	X		
015	15/32						X				
016	1/2	X	X	X	X	X	X	X	X	X	X
018	9/16	X	X	X	X	X	X	X	X		
019	19/32		X	X	X						
020	5/8	X	X	X	X	X	X	X	X	X	X
022	11/16	X	X	X	X	X	X	X	X		
023	23/32									X	
024	3/4	X	X	X	X	X	X	X	X	X	X
028	7/8	X	X	X	X	X	X	X	X		
029	29/32			X							
030	15/16		X								
100	1	X	X	X	X	X	X	X	X	X	X
102	1-1/16		X								
105	1-5/32			X							
106	1-3/16			X							
107	1-7/32					X					
108	1-1/4	X									
212	2-3/8						X				

BUSHING-PLAIN, PRESS FIT, STEEL

APPLICABLE DOCUMENT: NAS75



MATERIAL	PROTECTIVE FINISH
ALLOY STEEL	CADMIUM PLATE

BOLT SIZE (REF)		10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	1	—
A		.190	.250	.3125	.375	.4375	.500	.5625	.625	.750	1.000	1.250
B		.3136	.3761	.4386	.5013	.5638	.6265	.6892	.8142	.9393	1.1898	1.4399
LENGTH DASH NO.	L	NAS75 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-16	-20
003	3/32	X	X	X								
004	1/8	X	X	X								
005	5/32	X	X	X	X	X						
006	3/16	X	X	X	X	X	X					
007	7/32	X	X	X	X	X	X					
008	1/4	X	X	X	X	X	X					
009	9/32	X	X	X	X	X	X					

LENGTH DASH NO.	L	NAS75 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-16	-20
010	5/16	X	X	X	X	X	X	X	X	X	X	X
011	11/32	X	X	X	X	X	X	X	X	X	X	X
012	3/8	X	X	X	X	X	X	X	X	X	X	X
013	13/32	X	X	X	X	X	X	X	X			
014	7/16	X	X	X	X	X	X	X	X	X	X	X
015	15/32	X	X	X	X	X	X	X	X		X	
016	1/2	X	X	X	X	X	X	X	X	X	X	X
017	17/32	X	X	X	X	X	X	X	X	X		
018	9/16	X	X	X	X	X	X	X	X	X	X	X
019	19/32	X	X	X	X	X	X	X	X		X	X
020	5/8	X	X	X	X	X	X	X	X	X	X	X
021	21/32	X	X	X	X	X	X	X	X			
022	11/16	X	X	X	X	X	X	X	X	X	X	X
023	23/32	X	X	X	X	X	X	X	X			
024	3/4	X	X	X	X	X	X	X	X	X	X	X
025	25/32	X	X	X	X	X	X	X	X			
026	13/16	X	X	X	X	X	X	X	X			
027	27/32	X	X	X	X	X	X	X	X			
028	7/8	X	X	X	X	X	X	X	X	X	X	X
029	29/32	X	X	X	X	X	X	X	X			
030	15/16	X	X	X	X	X	X	X	X		X	
031	31/32	X	X	X	X	X	X	X	X	X	X	
100	1	X	X	X	X	X	X	X	X	X	X	X
102	1-1/16			X						X		
103	1-3/32	X	X									X
104	1-1/8			X								
105	1-5/32								X			
106	1-3/16			X						X		
109	1-9/32								X			
110	1-5/16	X	X									

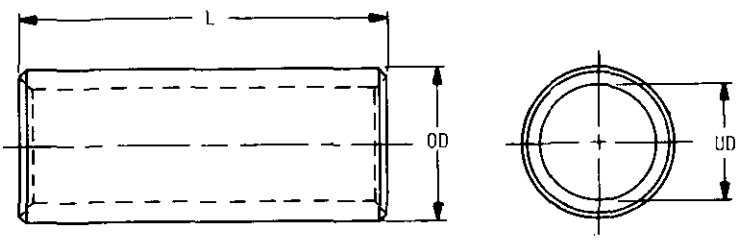
LENGTH DASH NO.	L	NAS75 SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-9	-10	-12	-16	-20
112	1-3/8	X										
114	1-7/16	X										
116	1-1/2		X		X							
117	1-17/32		X				X					
122	1-11/16	X										
125	1-25/32				X				X			
127	1-27/32				X							
200	2		X									
212	2-3/8		X									
213	2-13/32		X									
216	2-1/2		X									
217	2-17/32		X									
220	2-5/8		X									
226	2-13/16		X									
305	3-5/32										X	

SECTION 508

BUSHING, SLEEVE, PRESS FIT,

UNDERSIZE INSIDE DIAMETER

APPLICABLE DOCUMENT: NAS537



MATERIAL	PROTECTIVE FINISH 1/
ALUMINUM BRONZE	CADMIUM PLATE
STEEL, ALLOY	CADMIUM PLATE

1/ ONLY PLATED BUSHINGS ARE APPROVED AS DELINEATED IN MIL-BULLETIN-147

NOM DIA FOR REAM HOLE		.190	.250	.312	.375	.437	.500	.625	.750	.875	1.000	1.250
OD		.3136	.3761	.4386	.5013	.5638	.6265	.8142	.9393	1.0648	1.1898	1.4399
UD		.1790	.2380	.3010	.3590	.4220	.4840	.6090	.7340	.8590	.9840	1.2190
LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-10	-12	-14	-16	-20
-5	.050	X	X	X	X							
-6	.060	X	X	X	X							
-7	.070	X	X	X	X							
-8	.080	X	X	X	X							
-9	.090	X	X	X	X							
-10	.100	X	X	X	X	X	X					
-11	.110	X	X	X	X	X	X					
-12	.120	X	X	X	X	X	X					
-13	.130	X	X	X	X	X	X					
-14	.140	X	X	X	X	X	X					
-15	.150	X	X	X	X	X	X					
-16	.160	X	X	X	X	X	X					
-17	.170	X	X	X	X	X	X					
-18	.180	X	X	X	X	X	X					
-19	.190	X	X	X	X	X	X					
-20	.200	X	X	X	X	X	X					
-21	.210	X	X	X	X	X	X					
-22	.220	X	X	X	X	X	X					
-23	.230	X	X	X	X	X	X					
-24	.240	X	X	X	X	X	X					
-25	.250	X	X	X	X	X	X	X	X			
-26	.260	X	X	X	X	X	X	X	X			
-27	.270	X	X	X	X	X	X	X	X	X		
-28	.280	X	X	X	X	X	X	X	X			
-29	.290	X	X	X	X	X	X	X	X			
-30	.300	X	X	X	X	X	X	X	X			X
-31	.310	X	X	X	X	X	X	X	X			
-32	.320	X	X	X	X	X	X	X	X			
-33	.330	X	X	X	X	X	X	X	X			
-34	.340	X	X	X	X	X	X	X	X			
-35	.350	X	X	X	X	X	X	X	X			X
-36	.360	X	X	X	X	X	X	X	X		X	
-37	.370	X	X	X	X	X	X	X	X			
-38	.380	X	X	X	X	X	X	X	X			
-39	.390	X	X	X	X	X	X	X	X			
-40	.400	X	X	X	X	X	X	X	X			X
-41	.410	X	X	X	X	X	X	X	X	X		
-42	.420	X	X	X	X	X	X	X	X			
-43	.430	X	X	X	X	X	X	X	X			
-44	.440	X	X	X	X	X	X	X	X			
-45	.450	X	X	X	X	X	X	X	X			X

LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-10	-12	-14	-16	-20
-46	.460	X	X	X	X	X	X	X	X			
-47	.470	X	X	X	X	X	X	X	X			
-48	.480	X	X	X	X	X	X	X	X			
-49	.490	X	X	X	X	X	X	X	X		X	
-50	.500	X	X	X	X	X	X	X	X	X		X
-51	.510		X		X			X	X			
-52	.520				X			X	X			
-53	.530				X			X	X			
-54	.540				X			X	X			
-55	.550				X		X	X	X			X
-56	.560			X	X			X	X		X	
-57	.570		X		X			X	X	X		
-58	.580				X	X		X	X	X		
-59	.590				X			X	X			
-60	.600				X	X		X	X	X		X
-61	.610				X	X		X		X		
-62	.620		X									
-63	.630			X						X	X	
-65	.650											X
-66	.660								X			
-67	.670						X					
-69	.690				X							
-70	.700		X			X	X	X				X
-73	.730				X							
-74	.740				X							
-75	.750			X	X			X	X		X	X
-78	.780			X						X	X	
-80	.800								X			
-83	.830			X								
-84	.840		X									
-85	.850			X								
-87	.870							X	X			
-92	.920								X			
-94	.940									X		
-98	.980						X		X			
-99	.990									X		
-100	1.000				X	X		X	X			
-103	1.030			X								
-104	1.040						X					
-105	1.050						X					
-107	1.070										X	
-108	1.080								X			
-112	1.120										X	

LENGTH DASH NO.	L	SIZE DASH NO.										
		-3	-4	-5	-6	-7	-8	-10	-12	-14	-16	-20
-115	1.150			X							X	
-118	1.180							X				
-119	1.190									X		
-122	1.220		X							X		
-125	1.250		X						X			
-127	1.270		X									
-129	1.290								X			
-136	1.360		X									
-139	1.390										X	
-140	1.400									X		
-141	1.410										X	
-142	1.420											X
-143	1.430								X			
-144	1.440											X
-146	1.460					X						
-148	1.480											X
-151	1.510			X								
-173	1.730								X			
-178	1.780											X
-190	1.900		X					X				
-195	1.950							X				
-200	2.000						X					
-219	2.190		X									
-240	2.400					X						

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