LOCKHEED MARTIN

OCTOBER 1995 - MARCH 1996

service news

A SERVICE PUBLICATION OF LOCKHEED MARTIN AERONAUTICAL SYSTEMS

SPECIAL DOUBLE ISSUE

O-RINGS

Previous Page Table of Contents Next Page

LOCKHEED MARTIN

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A SERVICE PUBLICATION OF
LOCKHEED MARTIN
AERONAUTICAL SYSTEMS

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CONTENTS

2 Focal Point
J. C. Davis, Manager
Product Design Division

3 O-Rings
A new and fully revised compilation of the most commonly used data on the O-rings and backup rings installed in the Hercules aircraft.

5 Indexes
7 Gland O-rings for use in hydraulic fluids.
12 Single-turn backup rings for use with gland O-rings in hydraulic fluids.
16 Double-turn backup rings for use with gland O-rings in hydraulic fluids.
18 Continuous backup rings for use with gland O-rings in hydraulic fluids.
19 Boss O-rings for use in hydraulic fluids.
20 Backup O-rings for use with boss O-rings in hydraulic fluids.
21 Gland O-rings for use in lubricating oils.
25 Boss O-rings for use in lubricating oils.
26 Gland O-rings for use in common jet fuels.
31 Boss O-rings for use in common jet fuels.
A Glossary of Useful Terms.
32 Gland O-rings for use in breathing oxygen.
35 Boss O-rings for use in breathing oxygen.
O-Rings Revisited.

Cover: A C-130 based with the 50th TAS at Little Rock AFB faces a new day at Ramstein AB in Germany. This aircraft is one of the many Hercules airlifters being used to support Operation Joint Endeavor, bringing relief to war-ravaged Bosnia.

Cover photograph by John Rossino

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Focal Point

Elastomers and Age Control

J. C. Davis

This entire issue of *Service News* magazine is devoted to O-rings. It seems ironic that a simple, molded, doughnut-shaped part made of a single material could warrant so much attention. The selection of a specific O-ring is based on a variety of factors, including fluid media resistance, temperature range, hardness, durability, gland size, static or dynamic application, etc. There have been some significant technological advances in materials in recent history, but sometimes the best solution is still the simplest. While the use of fluorosilicone and fluorocarbon materials has become more widespread, the best choice often continues to be a basic nitrile butadiene (or Buna N) elastomer. Unfortunately, the nitrile compounds require age control.

Why is basic nitrile a better choice than a fluorosilicone or fluorocarbon compound which doesn't require age control? The tradeoff for fluorocarbon is higher cost and decreased low-temperature resistance; for fluorosilicone it is high cost and decreased durability. The cost factor is influenced by raw materials costs, processing costs, shrinkage control, and other considerations.

In the past, MIL-STD-1523, "Age Control of Age-Sensitive Elastomeric Material (for Aerospace Applications)," has provided the requirements for age control. This included requirements for elastomeric O-rings as well as other age-sensitive products such as aircraft hoses. The original MIL-STD-1523, issued in 1973, gave specific requirements for receipt and delivery of age-sensitive materials. Revision (A) to MIL-STD-1523 was released in 1984. This revision simplified the requirements by controlling only the allowable time period from start to end; that is, cure date to "maximum age at acceptance by a Government Acquiring Activity." The contractor was required to control all the interim steps and requirements so that the overall provisions of the military standard would be satisfied.

Now, as a result of the Perry Initiative to reduce the number of military specifications, MIL-STD-1523A has been canceled without replacement. Age controls for hose products are delineated by SAE Aerospace Standard AS1933, "Age Controls for Hose Containing Age-Sensitive Elastomeric Material." However, there is no reference to or replacement for age control of O-rings and other non-hose products. Does this mean that age control of O-rings is no longer necessary? Emphatically, no. This simply transfers the total responsibility to the contractor.

The transfer of responsibility for age control to the contractors will not affect the ability of Lockheed Martin Aeronautical Systems (LMAS) to control and deliver quality products to our customers. We and other OEMs have had internal requirements documents all along. These documents follow guidelines of the previous military requirements while tailoring the requirements to individual company needs. The LMAS controlling document is ER8094, "Limited Calendar Life Limitations." This document will continue to be used by LMAS to ensure that our customers receive a fresh and viable product.

Sincerely,

J. C. Davis, Manager
Product Design Division

PRODUCT SUPPORT LOCKHEED MARTIN AERONAUTICAL SYSTEMS

J. L. GAFFNEY — DIRECTOR

FIELD SUPPORT	SUPPLY SUPPORT	TECHNICAL SUPPORT	CUSTOMER TRAINING
J.D. Adams	J.L. Bailey	H.D. Hall	S.S. Clark

Previous Page Table of Contents Next Page

Newly Revised and Updated:

O-RINGS

by **Jim Roberts,** *Engineer, Sr.*
Standards and Specifications Group

Service News is pleased to present its fourth special issue devoted entirely to the subject of O-rings. The present update contains the latest information on the O-rings (also known as preformed packings) and backup rings used in the hydraulic, lubrication, fuel, and breathing oxygen systems of the Hercules airlifter and many other types of aircraft. This article consists of a multi-part index and 12 component charts. Please note that these O-ring charts do not authorize random substitutions, but are provided to Hercules operators for comparison and informational purposes.

A New Format

To help simplify use, the index has been reformatted to include an alphanumeric listing of all O-rings and backup rings, and listings by system and component type. Superseded parts are clearly identified for each system and application (gland or boss). Temperature ranges are now provided in both Fahrenheit and Celsius scales. Note that the temperature values shown in parentheses are nominal values provided by Lockheed Martin Aeronautical Systems Standards and Specifications Engineering.

Hydraulic system O-rings and backup rings are listed on Charts 2A, 2B-1, 2B-2, 2B-3, 2C, and 2D. Chart 2A details gland O-rings used in hydraulic systems. An M83461/1 O-ring listing was added to supplement previously issued information. The 2B-series of gland backup ring charts have been expanded to three. The latest addition (2B-3) lists the sizes of MS27595 continuous backup rings. Also, M8791/1 Teflon backup rings were added to the 2B-1 chart. The contents of Chart 2C covering boss O-rings and Chart 2D for boss backup rings have not been changed since the previous *Service News* O-ring issue.

Lubrication oil system O-rings and backup rings are listed on Charts 3A and 3B. Both charts now include information for the AS3551 O-ring. Fuel system O-rings and backup rings are listed on Charts 4A and 4B. Breathing oxygen system O-rings and backup rings are listed on Charts 5A and 5B.

When using the charts, be sure to refer to the notes below. This information should be consulted any time part substitution is considered. If problems concerning substitutability are encountered, contact your nearest Lockheed Martin Field Service representative. We have also provided the names and addresses of several selected manufacturers of O-rings and backup rings for your convenience.

Chart Notes:

- All dimensions are given in inches.
- In Charts 2A, 3A, and 4A: O-ring sizes -013 through -028, -117 through -149, and -223 through -247 of MS28775, MS29561, MS29513, and M83248/1 are intended for use as static seals. These O-rings should not to be used in applications involving reciprocating or rotary motion.
- Charts 1, 2A, 2C, 3A, 3B, 4A, and 4B: O-rings made of Buna N have a limited shelf life. Any O-rings made of this material still in stock with cure dates exceeding 120 months should be discarded.
- In Chart 1, the temperatures listed in the Temperature Range column are nominal values supplied by Lockheed Martin Standards and Specifications Engineering.
- Charts 2A, 3A, and 4A: When an O-ring made of fluorocarbon material is to be substituted for one made of Buna N, special care should be taken with regard to temperature ranges. Fluorocarbon O-rings may not be adequate if they are used in aircraft

which operate primarily in frigid environments. O-rings made of fluorocarbon material are somewhat less tolerant of low temperatures than those made of Buna N.

Suppliers

The names and addresses of selected suppliers are given in the listing below.

National O-Rings
11634 Patton Road
Downey, CA 90241-5295
Tel: 213-862-8163

PARCO, Inc.
2150 Parco Ave.
Ontario, CA 91761-5768
Tel: 714-947-2200

Parker-Hannifin Corp.
2360 Palumbo Drive
Lexington, KY 40515-1751
Tel: 606-269-2351

Stillman Seal
6020 Avenida Encinas
Carlsbad, CA 92008
Tel: 619-438-1011

Wynns-Precision, Inc.
104 Hartman Drive
Lebanon, TN 37087-8401
Tel: 615-444-0191

❑

O-RINGS, BACKUP RINGS

DIMENSION VIEWS

ID = internal diameter
T = thickness
W = width

DESIGN	CHART APPLICATION
	O-RINGS Charts 2A, 2C, 3A, 3B, 4A, 4B, 5A, 5B
	SINGLE-TURN BACKUP RINGS Charts 2B-1, 2D
	DOUBLE-TURN BACKUP RINGS Chart 2B-2
	CONTINUOUS BACKUP RINGS Chart 2B-3

Chart 1 — ALPHANUMERIC O-RING and BACKUP RING LIST

Part Number	Part Name	System	Superseding Part Number	Chart
AN123856 to AN123934	O-ring	Lubricating Oil	None	3A
AN123956 to AN124034	O-ring	Jet Fuel	None	4A
AN6227	O-ring	Hydraulic	M83461/1	2A
AN6230	O-ring	Hydraulic	M83461/1	2A
AN6290	O-ring	Hydraulic	MS28778	2C
AS3551	O-ring	Lubricating Oil	None	3A and 3B
LS4564	Backup Ring	Hydraulic	M8791/1	2B-1
LS4565	Backup Ring	Hydraulic	M8791/1	2B-1
LS4629	O-ring	Hydraulic	M83248/1	2A
LS4634	O-ring	Hydraulic	M83248/2	2C
LS4764	Backup Ring	Hydraulic	MS28773	2D
LS5041	O-ring	Lubricating Oil	M83248/1	3A and 3B
MS27595	Backup Ring	Hydraulic	None	2B-3
MS28773	Backup Ring	Hydraulic	None	2D
MS28774	Backup Ring	Hydraulic (1)	M8791/1	2B-1
MS28775	O-ring	Hydraulic	M83461/1	2A
MS28778	O-ring	Hydraulic	None	2C
MS28782	Backup Ring	Hydraulic	None	2B-2
MS28783	Backup Ring	Hydraulic	None	2B-2
MS29512	O-ring	Jet Fuel	None	4B
MS29513	O-ring	Jet Fuel	None	4A
MS29561	O-ring	Lubricating Oil	None	3A
MS9020	O-ring	Jet Fuel	None	4B
MS9021	O-ring	Jet Fuel	None	4A
MS9058	Backup Ring	Hydraulic	MS28773	2D
MS9068	O-ring	Oxygen	None	5A
MS9241	O-ring	Lubricating Oil	AS3551	3A
MS9355	O-ring	Lubricating Oil	AS3551	3B
MS9385	O-ring	Oxygen	None	5B
M25988/1	O-ring	Jet Fuel (2)	None	3A and 4A
M83248/1	O-ring	Hydraulic (3)	None	2A, 3A, and 4A
M83248/2	O-ring	Hydraulic (3)	None	2C, 3B, and 4B
M83461/1	O-ring	Hydraulic	None	2A
M8791/1	Backup Ring	Hydraulic	None	2B-1
NAS1593	O-ring	Hydraulic (3)	M83248/1	2A, 3A, and 4A
NAS1594	O-ring	Hydraulic (3)	M83248/1	2A, 3A, and 4A
NAS1595	O-ring	Hydraulic (3)	M83248/2	2C, 3B, and 4B
NAS1596	O-ring	Hydraulic (3)	M83248/2	2C, 3B, and 4B
NAS617	O-ring	Lubricating Oil	None	3B
STSPK300	O-ring	Hydraulic	M83248/2	2C
2( )PS1-30-5	O-ring	Hydraulic	None	2A
3( )N168-80	O-ring	Hydraulic	M83248/2	2C
3( )N756-76	O-ring	Hydraulic	M83248/2	2C
3( )PS1-30-5	O-ring	Hydraulic	None	2C
906	O-ring	Oxygen	MS9385	5B

NOTES:

(1) Some MS28774 backup rings are not superseded.

(2) M25988/1 O-rings are used for lubricating oil applications on other airplanes.

(3) M83248/( ) and NAS159( ) O-rings are used for lubricating oil and jet fuel applications on other airplanes.

Chart 1 — HYDRAULIC SYSTEM O-RINGS
(MIL-H-5606 and MIL-H-83282)

Current Part Number	Superseded Part Number(s)	Application	Temperature Range		Specification	Material	Chart
			Fahrenheit	Celsius			
MS28778		Boss	-65 to 160	-54 to 71	MIL-P-5510	Buna N	2C
	AN6290		-65 to 160	-54 to 71	MIL-P-5510	Buna N	2C
M83248/1		Gland	-20 to 500	-29 to 260	MIL-R-83248	Fluorocarbon	2A
	NAS1593		-30 to 500	-34 to 260	MIL-R-25897	Fluorocarbon	2A
	NAS1594		-30 to 500	-34 to 260	MIL-R-25897	Fluorocarbon	2A
M83248/2		Boss	-20 to 500	-29 to 260	MIL-R-83248	Fluorocarbon	2C
	LS4634		-65 to 275	-54 to 135	None	Buna-N	2C
	NAS1595		-30 to 500	-34 to 135	MIL-R-25897	Fluorocarbon	2C
	NAS1596		-30 to 500	-34 to 135	MIL-R-25897	Fluorocarbon	2C
	STSPK300		-65 to 275	-54 to 135	MIL-P-5510	Buna N	2C
	3( )N168-80		-65 to 275	-54 to 135	MIL-P-5510	Buna N	2C
	3( )N756-76		-65 to 275	-54 to 135	MIL-P-83461	Buna N	2C
M83461/1		Gland	-65 to 275	-54 to 135	MIL-P-83461	Buna N	2A
	AN6227		-65 to 160	-54 to 71	MIL-P-5516	Buna N	2A
	AN6230		-65 to 160	-54 to 71	MIL-P-5516	Buna N	2A
	LS4629		-65 to 275	-54 to 135	MIL-P-25732	Buna N	2A
	MS28775		-65 to 275	-54 to 135	MIL-P-25732	Buna N	2A
2( )PS1-30-5		Gland	-65 to 160	-54 to 71	MIL-P-5516	Buna N	2A
3( )PS1-30-5		Boss	-65 to 160	-54 to 71	MIL-P-5516	Buna N	2C

Chart 1 — HYDRAULIC SYSTEM BACKUP RINGS
(MIL-H-5606 and MIL-H-83282)

Current Part Number	Superseded Part Number(s)	Application	Temperature Range		Specification	Material	Chart
			Fahrenheit	Celsius			
MS27595		Gland	-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-3
MS28773		Boss	-65 to 275	-54 to 135	MIL-R-8791	Teflon	2D
	LS4764		-65 to 275	-54 to 135	MIL-R-8791	Teflon	2D
	MS9058		-65 to 275	-54 to 135	MIL-R-8791	Teflon	2D
MS28782		Gland	-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-2
MS28783		Gland	-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-2
M8791/1		Gland	-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-1
	LS4564		-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-1
	LS4565		-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-1
	* MS28774		-65 to 275	-54 to 135	MIL-R-8791	Teflon	2B-1

* Backup ring is still used for sizes not covered in M8791/1 series.

Chart 1 — LUBRICATION SYSTEM O-RINGS
(MIL-L-7808 and MIL-L-23699)

Current Part Number	Superseded Part Number(s)	Application	Temperature Range		Specification	Material	Chart
			Fahrenheit	Celsius			
AS3551		Gland/Boss	(-55) to 300	(-48) to 149	AMS7272	Buna N	3A, 3B
	MS9241	Gland	(-55) to 300	(-48) to 149	AMS7272	Buna N	3A
	MS9355	Boss	(-55) to 300	(-48) to 149	AMS7272	Buna N	3B
AN123856 to AN123934		Gland	-65 to (160)	-54 to (71)	AMS7274	Buna N	3A
MS29561		Gland	(-65) to (275)	(-54) to (135)	MIL-R-7362	Buna N	3A
M83248/1		Gland/Boss	-30 to 500	-34 to 260	MIL-R-83248	Fluorocarbon	3A
	LS5041	Gland/Boss	-65 to 300	-54 to 149	None	Buna N	3A, 3B
NAS617		Boss	(-65) to (275)	(-54) to (135)	MIL-R-7362	Buna N	3B

Chart 1 — FUEL SYSTEM O-RINGS

(JP-4, JP-5, JP-8, Jet A, Jet A-1, and Jet B)

Current Part Number	Superseded Part Number(s)	Application	Temperature Range		Specification	Material	Chart
			Fahrenheit	Celsius			
AN123956 to AN124034		Gland	-65 to (200)	-54 to (93)	AMS7270	Buna N	4A
MS9020		Boss	-65 to (200)	-54 to (93)	AMS7271	Buna N	4B
MS9021		Gland	-65 to (200)	-54 to (93)	AMS7271	Buna N	4A
MS29512		Boss	-65 to 160	-54 to 71	MIL-P-5315	Buna N	4B
MS29513		Gland	-65 to 160	-54 to 71	MIL-P-5315	Buna N	4A
M25988/1		Gland	-85 to 350	-65 to 177	MIL-R-25988	Fluorosilicone	4A

Chart 1 — BREATHING OXYGEN O-RINGS

Current Part Number	Superseded Part Number(s)	Application	Temperature Range		Specification	Material	Chart
			Fahrenheit	Celsius			
MS9068		Gland	-85 to 401	-65 to 205	AMS3304	Silicone	5A
MS9385		Boss	-85 to 500	-65 to 260	AMS7267	Silicone	5B
	906		-70 to 450	-57 to 232	None	Silicone	5B

Chart 2A — GLAND O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A Standard Dash No.	Nominal Dimensions		AN6227	AN6230	LS4629	MS28775	NAS1593	NAS1594	2( )PS1-30-5	M83461/1	M83248/1
	ID	W									
-001	0.029	0.040				-001				-001	-001
-002	0.042	0.050				-002				-002	-002
-003	0.056	0.060				-003				-003	-003
-004	0.070	0.070				-004	-004	-004		-004	-004
-005	0.101	0.070				-005	-005	-005		-005	-005
-006	0.114	0.070	-1			-006	-006	-006	-006	-006	-006
-007	0.145	0.070	-2			-007	-007	-007	-007	-007	-007
-008	0.176	0.070	-3			-008	-008	-008	-008	-008	-008
-009	0.208	0.070	-4			-009	-009	-009	-009	-009	-009
-010	0.239	0.070	-5			-010	-010	-010	-010	-010	-010
-011	0.301	0.070	-6			-011	-011	-011	-011	-011	-011
-012	0.364	0.070	-7			-012	-012	-012	-012	-012	-012
-013	0.426	0.070				-013	-013	-013		-013	-013
-014	0.489	0.070				-014	-014	-014		-014	-014
-015	0.551	0.070				-015	-015	-015		-015	-015
-016	0.614	0.070				-016	-016	-016		-016	-016
-017	0.676	0.070				-017	-017	-017		-017	-017
-018	0.739	0.070				-018	-018	-018		-018	-018
-019	0.801	0.070				-019	-019	-019		-019	-019
-020	0.864	0.070				-020	-020	-020		-020	-020
-021	0.926	0.070				-021	-021	-021		-021	-021
-022	0.989	0.070				-022	-022	-022		-022	-022
-023	1.051	0.070				-023	-023	-023		-023	-023
-024	1.114	0.070				-024	-024	-024		-024	-024
-025	1.176	0.070				-025	-025	-025		-025	-025
-026	1.239	0.070				-026	-026	-026		-026	-026
-027	1.301	0.070				-027	-027	-027		-027	-027
-028	1.364	0.070				-028	-028	-028		-028	-028
-029	1.489	0.070				-029	-029	-029			-029
-030	1.614	0.070				-030	-030	-030			-030
-031	1.739	0.070				-031	-031	-031			-031
-032	1.864	0.070				-032	-032	-032			-032
-033	1.989	0.070				-033	-033	-033			-033
-034	2.114	0.070				-034	-034	-034			-034
-035	2.239	0.070				-035	-035	-035			-035
-036	2.364	0.070				-036	-036	-036			-036
-037	2.489	0.070				-037	-037	-037			-037
-038	2.614	0.070				-038	-038	-038			-038
-039	2.739	0.070				-039	-039	-039			-039
-040	2.864	0.070				-040	-040	-040			-040
-041	2.989	0.070				-041	-041	-041			-041
-042	3.239	0.070				-042	-042	-042			-042
-043	3.489	0.070				-043	-043	-043			-043
-044	3.739	0.070				-044	-044	-044			-044
-045	3.989	0.070				-045	-045	-045			-045
-046	4.239	0.070				-046	-046	-046			-046
-047	4.489	0.070				-047	-047	-047			-047
-048	4.739	0.070				-048	-048	-048			-048
-049	4.989	0.070				-049	-049	-049			-049

Chart 2A (contd)

GLAND O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN6227	AN6230	LS4629	MS28775	NAS1593	NAS1594	2( )PS1-30-5	M83461/1	M83248/1
-050	5.239	0.070				-050	-050	-050			-050
-051 through -101	O-ring sizes not assigned.										
-102	0.049	0.103				-102					-102
-103	0.081	0.103				-103					-103
-104	0.112	0.103				-104					-104
-105	0.143	0.103				-105					-105
-106	0.174	0.103				-106					-106
-107	0.206	0.103				-107					-107
-108	0.237	0.103				-108					-108
-109	0.299	0.103				-109					-109
-110	0.362	0.103	-8			-110	-110	-110	-110	-110	-110
-111	0.424	0.103	-9			-111	-111	-111	-111	-111	-111
-112	0.487	0.103	-10			-112	-112	-112	-112	-112	-112
-113	0.549	0.103	-11			-113	-113	-113	-113	-113	-113
-114	0.612	0.103	-12			-114	-114	-114	-114	-114	-114
-115	0.674	0.103	-13			-115	-115	-115	-115	-115	-115
-116	0.737	0.103	-14			-116	-116	-116	-116	-116	-116
-117	0.799	0.103				-117	-117	-117		-117	-117
-118	0.862	0.103				-118	-118	-118		-118	-118
-119	0.924	0.103				-119	-119	-119		-119	-119
-120	0.987	0.103				-120	-120	-120		-120	-120
-121	1.049	0.103				-121	-121	-121		-121	-121
-122	1.112	0.103				-122	-122	-122		-122	-122
-123	1.174	0.103				-123	-123	-123		-123	-123
-124	1.237	0.103				-124	-124	-124		-124	-124
-125	1.299	0.103				-125	-125	-125		-125	-125
-126	1.362	0.103				-126	-126	-126		-126	-126
-127	1.424	0.103				-127	-127	-127		-127	-127
-128	1.487	0.103				-128	-128	-128		-128	-128
-129	1.549	0.103				-129	-129	-129		-129	-129
-130	1.612	0.103				-130	-130	-130		-130	-130
-131	1.674	0.103				-131	-131	-131		-131	-131
-132	1.737	0.103				-132	-132	-132		-132	-132
-133	1.799	0.103				-133	-133	-133		-133	-133
-134	1.862	0.103				-134	-134	-134		-134	-134
-135	1.925	0.103				-135	-135	-135		-135	-135
-136	1.987	0.103				-136	-136	-136		-136	-136
-137	2.050	0.103				-137	-137	-137		-137	-137
-138	2.112	0.103				-138	-138	-138		-138	-138
-139	2.175	0.103				-139	-139	-139		-139	-139
-140	2.237	0.103				-140	-140	-140		-140	-140
-141	2.300	0.103				-141	-141	-141		-141	-141
-142	2.362	0.103				-142	-142	-142		-142	-142
-143	2.425	0.103				-143	-143	-143		-143	-143
-144	2.487	0.103				-144	-144	-144		-144	-144
-145	2.550	0.103				-145	-145	-145		-145	-145
-146	2.612	0.103				-146	-146	-146		-146	-146
-147	2.675	0.103				-147	-147	-147		-147	-147
-148	2.737	0.103				-148	-148	-148		-148	-148
-149	2.800	0.103				-149	-149	-149		-149	-149
-150	2.862	0.103				-150	-150	-150			-150
-151	2.987	0.103				-151	-151	-151			-151
-152	3.237	0.103				-152	-152	-152			-152
-153	3.487	0.103				-153	-153	-153			-153
-154	3.737	0.103				-154	-154	-154			-154
-155	3.987	0.103				-155	-155	-155			-155
-156	4.237	0.103				-156	-156	-156			-156
-157	4.487	0.103				-157	-157	-157			-157
-158	4.737	0.103				-158	-158	-158			-158
-159	4.987	0.103				-159	-159	-159			-159
-160	5.237	0.103				-160	-160	-160			-160
-161	5.487	0.103				-161	-161	-161			-161
-162	5.737	0.103				-162	-162	-162			-162
-163	5.987	0.103				-163	-163	-163			-163
-164	6.237	0.103				-164	-164	-164			-164
-165	6.487	0.103				-165	-165	-165			-165
-166	6.737	0.103				-166	-166	-166			-166
-167	6.987	0.103				-167	-167	-167			-167
-168	7.237	0.103				-168	-168	-168			-168
-169	7.487	0.103				-169	-169	-169			-169
-170	7.737	0.103				-170	-170	-170			-170
-171	7.987	0.103				-171	-171	-171			-171
-172	8.237	0.103				-172	-172	-172			-172
-173	8.487	0.103				-173	-173	-173			-173
-174	8.737	0.103				-174	-174	-174			-174
-175	8.987	0.103				-175	-175	-175			-175
-176	9.237	0.103				-176	-176	-176			-176
-177	9.487	0.103				-177	-177	-177			-177
-178	9.737	0.103				-178	-178	-178			-178
-179 through -200	O-ring sizes not assigned.										
-201	0.171	0.139				-201					-201

Chart 2A (contd)

GLAND O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN6227	AN6230	LS4629	MS28775	NAS1593	NAS1594	2( )PS1-30-5	M83461/1	M83248/1
-202	0.234	0.139				-202					-202
-203	0.296	0.139				-203					-203
-204	0.359	0.139				-204					-204
-205	0.421	0.139				-205					-205
-206	0.484	0.139				-206					-206
-207	0.546	0.139				-207					-207
-208	0.609	0.139				-208					-208
-209	0.671	0.139				-209					-209
-210	0.734	0.139	-15			-210	-210	-210	-210	-210	-210
-211	0.796	0.139	-16			-211	-211	-211	-211	-211	-211
-212	0.859	0.139	-17			-212	-212	-212	-212	-212	-212
-213	0.921	0.139	-18			-213	-213	-213	-213	-213	-213
-214	0.984	0.139	-19			-214	-214	-214	-214	-214	-214
-215	1.046	0.139	-20			-215	-215	-215	-215	-215	-215
-216	1.109	0.139	-21			-216	-216	-216	-216	-216	-216
-217	1.171	0.139	-22			-217	-217	-217	-217	-217	-217
-218	1.234	0.139	-23			-218	-218	-218	-218	-218	-218
-219	1.296	0.139	-24			-219	-219	-219	-219	-219	-219
-220	1.359	0.139	-25			-220	-220	-220	-220	-220	-220
-221	1.421	0.139	-26			-221	-221	-221	-221	-221	-221
-222	1.484	0.139	-27			-222	-222	-222	-222	-222	-222
-223	1.609	0.139		-1		-223	-223	-223	-223	-223	-223
-224	1.734	0.139		-2		-224	-224	-224	-224	-224	-224
-225	1.859	0.139		-3		-225	-225	-225	-225	-225	-225
-226	1.984	0.139		-4		-226	-226	-226	-226	-226	-226
-227	2.109	0.139		-5		-227	-227	-227	-227	-227	-227
-228	2.234	0.139		-6		-228	-228	-228	-228	-228	-228
-229	2.359	0.139		-7		-229	-229	-229	-229	-229	-229
-230	2.484	0.139		-8		-230	-230	-230	-230	-230	-230
-231	2.609	0.139		-9		-231	-231	-231	-231	-231	-231
-232	2.734	0.139		-10		-232	-232	-232	-232	-232	-232
-233	2.859	0.139		-11		-233	-233	-233	-233	-233	-233
-234	2.984	0.139		-12		-234	-234	-234	-234	-234	-234
-235	3.109	0.139		-13		-235	-235	-235	-235	-235	-235
-236	3.234	0.139		-14		-236	-236	-236	-236	-236	-236
-237	3.359	0.139		-15		-237	-237	-237	-237	-237	-237
-238	3.484	0.139		-16		-238	-238	-238	-238	-238	-238
-239	3.609	0.139		-17		-239	-239	-239	-239	-239	-239
-240	3.734	0.139		-18		-240	-240	-240	-240	-240	-240
-241	3.859	0.139		-19		-241	-241	-241	-241	-241	-241
-242	3.984	0.139		-20		-242	-242	-242	-242	-242	-242
-243	4.109	0.139		-21		-243	-243	-243	-243	-243	-243
-244	4.234	0.139		-22		-244	-244	-244	-244	-244	-244
-245	4.359	0.139		-23		-245	-245	-245	-245	-245	-245
-246	4.484	0.139		-24		-246	-246	-246	-246	-246	-246
-247	4.609	0.139		-25		-247	-247	-247	-247	-247	-247
-248	4.734	0.139			-26	-248	-248	-248	-248		-248
-249	4.859	0.139				-249	-249	-249	-249		-249
-250	4.984	0.139				-250	-250	-250	-250		-250
-251	5.109	0.139				-251	-251	-251	-251		-251
-252	5.234	0.139			-30	-252	-252	-252	-252		-252
-253	5.359	0.139				-253	-253	-253	-253		-253
-254	5.484	0.139				-254	-254	-254	-254		-254
-255	5.609	0.139				-255	-255	-255	-255		-255
-256	5.734	0.139				-256	-256	-256	-256		-256
-257	5.859	0.139				-257	-257	-257	-257		-257
-258	5.984	0.139				-258	-258	-258	-258		-258
-259	6.234	0.139				-259	-259	-259	-259		-259
-260	6.484	0.139			-38	-260	-260	-260	-260		-260
-261	6.734	0.139				-261	-261	-261	-261		-261
-262	6.984	0.139			-40	-262	-262	-262	-262		-262
-263	7.234	0.139				-263	-263	-263	-263		-263
-264	7.484	0.139				-264	-264	-264	-264		-264
-265	7.734	0.139				-265	-265	-265	-265		-265
-266	7.984	0.139				-266	-266	-266	-266		-266
-267	8.234	0.139				-267	-267	-267	-267		-267
-268	8.484	0.139			-46	-268	-268	-268	-268		-268
-269	8.734	0.139				-269	-269	-269	-269		-269
-270	8.984	0.139				-270	-270	-270	-270		-270
-271	9.234	0.139				-271	-271	-271	-271		-271
-272	9.484	0.139			-50	-272	-272	-272	-272		-272
-273	9.734	0.139				-273	-273	-273	-273		-273
-274	9.984	0.139				-274	-274	-274	-274		-274
-275	10.484	0.139				-275	-275	-275			-275
-276	10.984	0.139				-276	-276	-276			-276
-277	11.484	0.139				-277	-277	-277			-277
-278	11.984	0.139				-278	-278	-278			-278
-279	12.984	0.139				-279	-279	-279			-279
-280	13.984	0.139				-280	-280	-280			-280
-281	14.984	0.139				-281	-281	-281			-281
-282	15.955	0.139				-282					-282

Chart 2A (contd)

GLAND O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN6227	AN6230	LS4629	MS28775	NAS1593	NAS1594	2( )PS1-30-5	M83461/1	M83248/1
-283	16.955	0.139				-283					-283
-284	17.955	0.139				-284					-284
-285 through -308	O-ring sizes not assigned.										
-309	0.412	0.210				-309					-309
-310	0.475	0.210				-310					-310
-311	0.537	0.210				-311					-311
-312	0.600	0.210				-312					-312
-313	0.662	0.210				-313					-313
-314	0.725	0.210				-314					-314
-315	0.787	0.210				-315					-315
-316	0.850	0.210				-316					-316
-317	0.912	0.210				-317					-317
-318	0.975	0.210				-318					-318
-319	1.037	0.210				-319					-319
-320	1.100	0.210				-320					-320
-321	1.162	0.210				-321					-321
-322	1.225	0.210				-322					-322
-323	1.289	0.210				-323					-323
-324	1.350	0.210				-324					-324
-325	1.475	0.210	-28			-325	-325	-325	-325	-325	-325
-326	1.600	0.210	-29			-326	-326	-326	-326	-326	-326
-327	1.725	0.210	-30			-327	-327	-327	-327	-327	-327
-328	1.850	0.210	-31			-328	-328	-328	-328	-328	-328
-329	1.975	0.210	-32			-329	-329	-329	-329	-329	-329
-330	2.100	0.210	-33			-330	-330	-330	-330	-330	-330
-331	2.225	0.210	-34			-331	-331	-331	-331	-331	-331
-332	2.350	0.210	-35			-332	-332	-332	-332	-332	-332
-333	2.475	0.210	-36			-333	-333	-333	-333	-333	-333
-334	2.600	0.210	-37			-334	-334	-334	-334	-334	-334
-335	2.725	0.210	-38			-335	-335	-335	-335	-335	-335
-336	2.850	0.210	-39			-336	-336	-336	-336	-336	-336
-337	2.975	0.210	-40			-337	-337	-337	-337	-337	-337
-338	3.100	0.210	-41			-338	-338	-338	-338	-338	-338
-339	3.225	0.210	-42			-339	-339	-339	-339	-339	-339
-340	3.350	0.210	-43			-340	-340	-340	-340	-340	-340
-341	3.475	0.210	-44			-341	-341	-341	-341	-341	-341
-342	3.600	0.210	-45			-342	-342	-342	-342	-342	-342
-343	3.725	0.210	-46			-343	-343	-343	-343	-343	-343
-344	3.850	0.210	-47			-344	-344	-344	-344	-344	-344
-345	3.975	0.210	-48			-345	-345	-345	-345	-345	-345
-346	4.100	0.210	-49			-346	-346	-346	-346	-346	-346
-347	4.225	0.210	-50			-347	-347	-347	-347	-347	-347
-348	4.350	0.210	-51			-348	-348	-348	-348	-348	-348
-349	4.475	0.210	-52			-349	-349	-349	-349	-349	-349
-350	4.600	0.210				-350					-350
-351	4.725	0.210				-351					-351
-352	4.850	0.210				-352					-352
-353	4.975	0.210				-353					-353
-354	5.100	0.210				-354					-354
-355	5.225	0.210				-355					-355
-356	5.350	0.210				-356					-356
-357	5.475	0.210				-357					-357
-358	5.600	0.210				-358					-358
-359	5.725	0.210				-359					-359
-360	5.850	0.210				-360					-360
-361	5.975	0.210				-361					-361
-362	6.225	0.210				-362					-362
-363	6.475	0.210				-363					-363
-364	6.725	0.210				-364					-364
-365	6.975	0.210				-365					-365
-366	7.225	0.210				-366					-366
-367	7.475	0.210				-367					-367
-368	7.725	0.210				-368					-368
-369	7.975	0.210				-369					-369
-370	8.225	0.210				-370					-370
-371	8.475	0.210				-371					-371
-372	8.725	0.210				-372					-372
-373	8.975	0.210				-373					-373
-374	9.225	0.210				-374					-374
-375	9.475	0.210				-375					-375
-376	9.725	0.210				-376					-376
-377	9.975	0.210				-377					-377
-378	10.475	0.210				-378					-378
-379	10.975	0.210				-379					-379
-380	11.475	0.210				-380					-380
-381	11.975	0.210				-381					-381
-382	12.975	0.210				-382					-382
-383	13.975	0.210				-383					-383
-384	14.975	0.210				-384					-384
-385	15.955	0.210				-385					-385
-386	16.955	0.210				-386					-386

Chart 2A (contd)

GLAND O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	Nominal Dimensions										
Standard Dash No.	ID	W	AN6227	AN6230	LS4629	MS28775	NAS1593	NAS1594	2( )PS1-30-5	M83461/1	M83248/1
-387	17.955	0.210				-387					-387
-388	18.955	0.210				-388					-388
-389	19.955	0.210				-389					-389
-390	20.955	0.210				-390					-390
-391	21.955	0.210				-391					-391
-392	22.940	0.210				-392					-392
-393	23.940	0.210				-393					-393
-394	24.940	0.210				-394					-394
-395	25.940	0.210				-395					-395
-396 through -424	O-ring sizes not assigned.										
-425	4.475	0.275	-88			-425	-425	-425	-425	-425	-425
-426	4.600	0.275	-53			-426	-426	-426	-426	-426	-426
-427	4.725	0.275	-54			-427	-427	-427	-427	-427	-427
-428	4.850	0.275	-55			-428	-428	-428	-428	-428	-428
-429	4.975	0.275	-56			-429	-429	-429	-429	-429	-429
-430	5.100	0.275	-57			-430	-430	-430	-430	-430	-430
-431	5.225	0.275	-58			-431	-431	-431	-431	-431	-431
-432	5.350	0.275	-59			-432	-432	-432	-432	-432	-432
-433	5.475	0.275	-60			-433	-433	-433	-433	-433	-433
-434	5.600	0.275	-61			-434	-434	-434	-434	-434	-434
-435	5.725	0.275	-62			-435	-435	-435	-435	-435	-435
-436	5.850	0.275	-63			-436	-436	-436	-436	-436	-436
-437	5.975	0.275	-64			-437	-437	-437	-437	-437	-437
-438	6.225	0.275	-65			-438	-438	-438	-438	-438	-438
-439	6.475	0.275	-66			-439	-439	-439	-439	-439	-439
-440	6.725	0.275	-67			-440	-440	-440	-440	-440	-440
-441	6.975	0.275	-68			-441	-441	-441	-441	-441	-441
-442	7.225	0.275	-69			-442	-442	-442	-442	-442	-442
-443	7.475	0.275	-70			-443	-443	-443	-443	-443	-443
-444	7.725	0.275	-71			-444	-444	-444	-444	-444	-444
-445	7.975	0.275	-72			-445	-445	-445	-445	-445	-445
-446	8.475	0.275	-73			-446	-446	-446	-446	-446	-446
-447	8.975	0.275	-74			-447	-447	-447	-447	-447	-447
-448	9.475	0.275	-75			-448	-448	-448	-448	-448	-448
-449	9.975	0.275	-76			-449	-449	-449	-449	-449	-449
-450	10.475	0.275	-77			-450	-450	-450	-450	-450	-450
-451	10.975	0.275	-78			-451	-451	-451	-451	-451	-451
-452	11.475	0.275	-79			-452	-452	-452	-452	-452	-452
-453	11.975	0.275	-80			-453	-453	-453	-453	-453	-453
-454	12.475	0.275	-81			-454	-454	-454	-454	-454	-454
-455	12.975	0.275	-82			-455	-455	-455	-455	-455	-455
-456	13.475	0.275	-83			-456	-456	-456	-456	-456	-456
-457	13.975	0.275	-84			-457	-457	-457	-457	-457	-457
-458	14.475	0.275	-85			-458	-458	-458	-458	-458	-458
-459	14.975	0.275	-86			-459	-459	-459	-459	-459	-459
-460	15.475	0.275	-87			-460	-460	-460	-460	-460	-460
-461	15.955	0.275				-461					-461
-462	16.455	0.275				-462					-462
-463	16.955	0.275				-463					-463
-464	17.455	0.275				-464					-464
-465	17.955	0.275				-465					-465
-466	18.455	0.275				-466					-466
-467	18.955	0.275				-467					-467
-468	19.455	0.275				-468					-468
-469	19.955	0.275				-469					-469
-470	20.955	0.275				-470					-470
-471	21.955	0.275				-471					-471
-472	22.940	0.275				-472					-472
-473	23.940	0.275				-473					-473
-474	24.940	0.275				-474					-474
-475	25.940	0.275				-475					-475

Previous Page Table of Contents Next Page

Chart 2B-1

SINGLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	LS4564				LS4565				MS28774				M8791/1			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W
-001 through -003	No corresponding backup rings.															
-004									-004	0.109	0.049	0.053	-004	0.076	0.050	0.052
-005									-005	0.124	0.049	0.053	-005	0.108	0.050	0.052
-006					-1 or -006	0.125	0.054	0.055	-006	0.140	0.049	0.053	-006	0.123	0.050	0.052
-007					-2 or -007	0.156	0.054	0.055	-007	0.171	0.049	0.053	-007	0.154	0.050	0.052
-008					-3 or -008	0.188	0.054	0.055	-008	0.202	0.049	0.053	-008	0.185	0.050	0.052
-009					-4 or -009	0.219	0.054	0.055	-009	0.234	0.049	0.053	-009	0.217	0.050	0.052
-010					-5 or -010	0.250	0.054	0.055	-010	0.265	0.049	0.053	-010	0.248	0.050	0.052
-011					-6 or -011	0.312	0.054	0.055	-011	0.327	0.049	0.053	-011	0.310	0.050	0.052
-012					-7 or -012	0.375	0.054	0.055	-012	0.390	0.049	0.053	-012	0.373	0.050	0.052
-013									-013	0.455	0.049	0.053	-013	0.438	0.050	0.052
-014									-014	0.518	0.049	0.053	-014	0.501	0.050	0.052
-015									-015	0.580	0.049	0.053	-015	0.563	0.050	0.052
-016									-016	0.643	0.049	0.053	-016	0.626	0.050	0.052
-017									-017	0.705	0.049	0.053	-017	0.688	0.050	0.052
-018									-018	0.768	0.049	0.053	-018	0.751	0.050	0.052
-019									-019	0.830	0.049	0.053	-019	0.813	0.050	0.052
-020									-020	0.898	0.049	0.053	-020	0.881	0.050	0.052
-021									-021	0.960	0.049	0.053	-021	0.943	0.050	0.052
-022									-022	1.023	0.049	0.053	-022	1.006	0.050	0.052
-023									-023	1.085	0.049	0.053	-023	1.068	0.050	0.052
-024									-024	1.148	0.049	0.053	-024	1.131	0.050	0.052
-025									-025	1.210	0.049	0.053	-025	1.193	0.050	0.052
-026									-026	1.273	0.049	0.053	-026	1.256	0.050	0.052
-027									-027	1.335	0.049	0.053	-027	1.318	0.050	0.052
-028									-028	1.398	0.049	0.053	-028	1.381	0.050	0.052
-029 through -109	No corresponding backup rings.															
-110					-8 or -110	0.375	0.054	0.088	-110	0.390	0.049	0.086	-110	0.373	0.054	0.086
-111					-9 or -111	0.437	0.054	0.088	-111	0.452	0.049	0.086	-111	0.435	0.054	0.086
-112					-10 or -112	0.500	0.054	0.088	-112	0.515	0.049	0.086	-112	0.498	0.054	0.086
-113					-11 or -113	0.562	0.054	0.088	-113	0.577	0.049	0.086	-113	0.560	0.054	0.086
-114					-12 or -114	0.625	0.054	0.088	-114	0.640	0.049	0.086	-114	0.623	0.054	0.086
-115					-13 or -115	0.688	0.054	0.088	-115	0.702	0.049	0.086	-115	0.685	0.054	0.086
-116					-14 or -116	0.750	0.054	0.088	-116	0.765	0.049	0.086	-116	0.748	0.054	0.086
-117									-117	0.832	0.049	0.086	-117	0.815	0.054	0.086
-118									-118	0.895	0.049	0.086	-118	0.878	0.054	0.086
-119									-119	0.957	0.049	0.086	-119	0.940	0.054	0.086
-120									-120	1.020	0.049	0.086	-120	1.003	0.054	0.086
-121									-121	1.082	0.049	0.086	-121	1.065	0.054	0.086
-122									-122	1.145	0.049	0.086	-122	1.128	0.054	0.086
-123									-123	1.207	0.049	0.086	-123	1.190	0.054	0.086
-124									-124	1.270	0.049	0.086	-124	1.253	0.054	0.086
-125									-125	1.332	0.049	0.086	-125	1.315	0.054	0.086
-126									-126	1.397	0.049	0.086	-126	1.380	0.054	0.086
-127									-127	1.459	0.049	0.086	-127	1.442	0.054	0.086
-128									-128	1.522	0.049	0.086	-128	1.505	0.054	0.086
-129									-129	1.584	0.049	0.086	-129	1.564	0.054	0.086

Previous Page Table of Contents Next Page

Chart 2B-1 (contd)

SINGLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	LS4564				LS4565				MS28774				M8791/1			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W
-130									-130	1.647	0.049	0.086	-130	1.627	0.054	0.086
-131									-131	1.709	0.049	0.086	-131	1.689	0.054	0.086
-132									-132	1.772	0.049	0.086	-132	1.752	0.054	0.086
-133									-133	1.834	0.049	0.086	-133	1.814	0.054	0.086
-134									-134	1.897	0.049	0.086	-134	1.877	0.054	0.086
-135									-135	1.959	0.049	0.086	-135	1.940	0.054	0.086
-136									-136	2.022	0.049	0.086	-136	2.002	0.054	0.086
-137									-137	2.084	0.049	0.086	-137	2.065	0.054	0.086
-138									-138	2.147	0.049	0.086	-138	2.127	0.054	0.086
-139									-139	2.209	0.049	0.086	-139	2.190	0.054	0.086
-140 through -209	No corresponding backup rings.															
-210					-15 or -210	0.750	0.054	0.121	-210	0.766	0.049	0.119	-210	0.748	0.062	0.119
-211					-16 or -211	0.812	0.054	0.121	-211	0.828	0.049	0.119	-211	0.810	0.062	0.119
-212					-17 or -212	0.875	0.054	0.121	-212	0.891	0.049	0.119	-212	0.873	0.062	0.119
-213					-18 or -213	0.937	0.054	0.121	-213	0.953	0.049	0.119	-213	0.935	0.062	0.119
-214					-19 or -214	1.000	0.054	0.121	-214	1.016	0.049	0.119	-214	0.998	0.062	0.119
-215					-20 or -215	1.062	0.054	0.121	-215	1.078	0.049	0.119	-215	1.060	0.062	0.119
-216					-21 or -216	1.125	0.054	0.121	-216	1.141	0.049	0.119	-216	1.123	0.062	0.119
-217					-22 or -217	1.187	0.054	0.121	-217	1.203	0.049	0.119	-217	1.185	0.062	0.119
-218					-23 or -218	1.250	0.054	0.121	-218	1.266	0.049	0.119	-218	1.248	0.062	0.119
-219					-24 or -219	1.312	0.054	0.121	-219	1.334	0.049	0.119	-219	1.310	0.062	0.119
-220					-25 or -220	1.375	0.054	0.121	-220	1.397	0.049	0.119	-220	1.373	0.062	0.119
-221					-26 or -221	1.437	0.054	0.121	-221	1.459	0.049	0.119	-221	1.435	0.062	0.119
-222					-27 or -222	1.500	0.054	0.121	-222	1.522	0.049	0.119	-222	1.498	0.062	0.119
-223	-1	1.625	0.054	0.121	-223	1.625	0.054	0.121	-223	1.647	0.049	0.119	-223	1.625	0.062	0.119
-224	-2	1.750	0.054	0.121	-224	1.750	0.054	0.121	-224	1.772	0.049	0.119	-224	1.750	0.062	0.119
-225	-3	1.875	0.054	0.121	-225	1.875	0.054	0.121	-225	1.897	0.049	0.119	-225	1.875	0.062	0.119
-226	-4	2.000	0.054	0.121	-226	2.000	0.054	0.121	-226	2.022	0.049	0.119	-226	2.000	0.062	0.119
-227	-5	2.125	0.054	0.121	-227	2.125	0.054	0.121	-227	2.147	0.049	0.119	-227	2.125	0.062	0.119
-228	-6	2.250	0.054	0.121	-228	2.250	0.054	0.121	-228	2.272	0.049	0.119	-228	2.250	0.062	0.119
-229	-7	2.375	0.054	0.121	-229	2.375	0.054	0.121	-229	2.397	0.049	0.119	-229	2.375	0.062	0.119
-230	-8	2.500	0.054	0.121	-230	2.500	0.054	0.121	-230	2.522	0.049	0.119	-230	2.500	0.062	0.119
-231	-9	2.625	0.054	0.121	-231	2.625	0.054	0.121								
-232	-10	2.750	0.054	0.121	-232	2.750	0.054	0.121								
-233	-11	2.875	0.054	0.121	-233	2.875	0.054	0.121								
-234	-12	3.000	0.054	0.121	-234	3.000	0.054	0.121								
-235	-13	3.125	0.054	0.121	-235	3.125	0.054	0.121								
-236	-14	3.250	0.054	0.121	-236	3.250	0.054	0.121								
-237	-15	3.375	0.054	0.121	-237	3.375	0.054	0.121								
-238	-16	3.500	0.054	0.121	-238	3.500	0.054	0.121								
-239	-17	3.625	0.054	0.121	-239	3.625	0.054	0.121								
-240	-18	3.750	0.054	0.121	-240	3.750	0.054	0.121								
-241	-19	3.875	0.054	0.121	-241	3.875	0.054	0.121								
-242	-20	4.000	0.054	0.121	-242	4.000	0.054	0.121								
-243	-21	4.125	0.054	0.121	-243	4.125	0.054	0.121								
-244	-22	4.250	0.054	0.121	-244	4.250	0.054	0.121								
-245	-23	4.375	0.054	0.121	-245	4.375	0.054	0.121								

Chart 2B-1 (contd)

SINGLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	LS4564				LS4565				MS28774				M8791/1			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W
-246	-24	4.500	0.054	0.121	-246	4.500	0.054	0.121								
-247	-25	4.625	0.054	0.121	-247	4.625	0.054	0.121								
-248 through -324	No corresponding backup rings.															
-325					-28 or -325	1.500	0.067	0.185	-325	1.513	0.070	0.183	-325	1.498	0.088	0.183
-326					-29 or -326	1.625	0.067	0.185	-326	1.636	0.070	0.183	-326	1.623	0.088	0.183
-327					-30 or -327	1.750	0.067	0.185	-327	1.763	0.070	0.183	-327	1.748	0.088	0.183
-328					-31 or -328	1.875	0.067	0.185	-328	1.888	0.070	0.183	-328	1.873	0.088	0.183
-329					-32 or -329	2.000	0.067	0.185	-329	2.013	0.070	0.183	-329	1.998	0.088	0.183
-330					-33 or -330	2.125	0.067	0.185	-330	2.138	0.070	0.183	-330	2.123	0.088	0.183
-331					-34 or -331	2.250	0.067	0.185	-331	2.268	0.070	0.183	-331	2.248	0.088	0.183
-332					-35 or -332	2.375	0.067	0.185	-332	2.393	0.070	0.183	-332	2.373	0.088	0.183
-333					-36 or -333	2.500	0.067	0.185	-333	2.518	0.070	0.183	-333	2.498	0.088	0.183
-334					-37 or -334	2.625	0.067	0.185	-334	2.643	0.070	0.183	-334	2.623	0.088	0.183
-335					-38 or -335	2.750	0.067	0.185	-335	2.768	0.070	0.183	-335	2.748	0.088	0.183
-336					-39 or -336	2.875	0.067	0.185	-336	2.893	0.070	0.183	-336	2.873	0.088	0.183
-337					-40 or -337	3.000	0.067	0.185	-337	3.018	0.070	0.183	-337	2.997	0.088	0.183
-338					-41 or -338	3.125	0.067	0.185	-338	3.143	0.070	0.183	-338	3.122	0.088	0.183
-339					-42 or -339	3.250	0.067	0.185	-339	3.273	0.070	0.183	-339	3.247	0.088	0.183
-340					-43 or -340	3.375	0.067	0.185	-340	3.398	0.070	0.183	-340	3.372	0.088	0.183
-341					-44 or -341	3.500	0.067	0.185	-341	3.523	0.070	0.183	-341	3.497	0.088	0.183
-342					-45 or -342	3.625	0.067	0.185	-342	3.648	0.070	0.183	-342	3.622	0.088	0.183
-343					-46 or -343	3.750	0.067	0.185	-343	3.773	0.070	0.183	-343	3.747	0.088	0.183
-344					-47 or -344	3.875	0.067	0.185	-344	3.898	0.070	0.183	-344	3.872	0.088	0.183
-345					-48 or -345	4.000	0.067	0.185	-345	4.028	0.070	0.183	-345	3.997	0.088	0.183
-346					-49 or -346	4.125	0.067	0.185	-346	4.153	0.070	0.183	-346	4.122	0.088	0.183
-347					-50 or -347	4.250	0.067	0.185	-347	4.278	0.070	0.183	-347	4.247	0.088	0.183
-348					-51 or -348	4.375	0.067	0.185	-348	4.403	0.070	0.183	-348	4.372	0.088	0.183
-349					-52 or -349	4.500	0.067	0.185	-349	4.528	0.070	0.183	-349	4.497	0.088	0.183
-350 through -424	No corresponding backup rings.															
-425					-88 or -425	4.500	0.098	0.238	-425	4.551	0.105	0.237	-425	4.497	0.120	0.236
-426					-53 or -426	4.625	0.098	0.238	-426	4.676	0.105	0.237	-426	4.622	0.120	0.236
-427					-54 or -427	4.750	0.098	0.238	-427	4.801	0.105	0.237	-427	4.747	0.120	0.236
-428					-55 or -428	4.875	0.098	0.238	-428	4.926	0.105	0.237	-428	4.872	0.120	0.236
-429					-56 or -429	5.000	0.098	0.238	-429	5.051	0.105	0.237	-429	4.997	0.120	0.236
-430					-57 or -430	5.125	0.098	0.238	-430	5.176	0.105	0.237	-430	5.122	0.120	0.236
-431					-58 or -431	5.250	0.098	0.238	-431	5.301	0.105	0.237	-431	5.247	0.120	0.236
-432					-59 or -432	5.375	0.098	0.238	-432	5.426	0.105	0.237	-432	5.372	0.120	0.236
-433					-60 or -433	5.500	0.098	0.238	-433	5.551	0.105	0.237	-433	5.497	0.120	0.236
-434					-61 or -434	5.625	0.098	0.238	-434	5.676	0.105	0.237	-434	5.622	0.120	0.236
-435					-62 or -435	5.750	0.098	0.238	-435	5.801	0.105	0.237	-435	5.747	0.120	0.236
-436					-63 or -436	5.875	0.098	0.238	-436	5.926	0.105	0.237	-436	5.872	0.120	0.236
-437					-64 or -437	6.000	0.098	0.238	-437	6.051	0.105	0.237	-437	5.997	0.120	0.236
-438					-65 or -438	6.250	0.098	0.238								
-439					-66 or -439	6.500	0.098	0.238								
-440					-67 or -440	6.750	0.098	0.238								
-441					-68 or -441	7.000	0.098	0.238								
-442					-69 or -442	7.250	0.098	0.238								

Chart 2B-1 (contd)

SINGLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS (contd)

AS 568A	LS4564				LS4565				MS28774				M8791/1			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W	Dash No.	ID	T	W
-443					-70 or -443	7.500	0.098	0.238								
-444					-71 or -444	7.750	0.098	0.238								
-445					-72 or -445	8.000	0.098	0.238								
-446					-73 or -446	8.500	0.098	0.238								
-447					-74 or -447	9.000	0.098	0.238								
-448					-75 or -448	9.500	0.098	0.238								
-449					-76 or -449	10.000	0.098	0.238								
-450					-77 or -450	10.500	0.098	0.238								
-451					-78 or -451	11.000	0.098	0.238								
-452					-79 or -452	11.500	0.098	0.238								
-453					-80 or -453	12.000	0.098	0.238								
-454					-81 or -454	12.500	0.098	0.238								
-455					-82 or -455	13.000	0.098	0.238								
-456					-83 or -456	13.500	0.098	0.238								
-457					-84 or -457	14.000	0.098	0.238								
-458					-85 or -458	14.500	0.098	0.238								
-459					-86 or -459	15.000	0.098	0.238								
-460					-87 or -460	15.500	0.098	0.238								
-461 through -475	No corresponding backup rings.															

Previous Page Table of Contents Next Page

Chart 2B-2 DOUBLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-83282 HYDRAULIC FLUIDS

AS 568A	MS28782				MS28783			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W
-001 through -005	No corresponding backup rings.							
-006	-1	0.125	0.027	0.055				
-007	-2	0.156	0.027	0.055				
-008	-3	0.188	0.027	0.055				
-009	-4	0.219	0.027	0.055				
-010	-5	0.250	0.027	0.055				
-011	-6	0.312	0.027	0.055				
-012	-7	0.375	0.027	0.055				
-013 through -109	No corresponding backup rings.							
-110	-8	0.375	0.027	0.088				
-111	-9	0.438	0.027	0.088				
-112	-10	0.500	0.027	0.088				
-113	-11	0.562	0.027	0.088				
-114	-12	0.625	0.027	0.088				
-115	-13	0.688	0.027	0.088				
-116	-14	0.750	0.027	0.088				
-117 through -209	No corresponding backup rings.							
-210	-15	0.750	0.027	0.121				
-211	-16	0.812	0.027	0.121				
-212	-17	0.875	0.027	0.121				
-213	-18	0.938	0.027	0.121				
-214	-19	1.000	0.027	0.121				
-215	-20	1.062	0.027	0.121				
-216	-21	1.125	0.027	0.121				
-217	-22	1.188	0.027	0.121				
-218	-23	1.250	0.027	0.121				
-219	-24	1.312	0.027	0.121				
-220	-25	1.375	0.027	0.121				
-221	-26	1.438	0.027	0.121				
-222	-27	1.500	0.027	0.121				
-223					-1	1.625	0.027	0.120
-224					-2	1.750	0.027	0.120
-225					-3	1.875	0.027	0.120
-226					-4	2.000	0.027	0.120
-227					-5	2.125	0.027	0.120
-228					-6	2.250	0.027	0.120
-229					-7	2.375	0.027	0.120
-230					-8	2.500	0.027	0.120
-231					-9	2.625	0.027	0.120
-232					-10	2.750	0.027	0.120
-233					-11	2.875	0.027	0.120
-234					-12	3.000	0.027	0.120
-235					-13	3.125	0.027	0.120
-236					-14	3.250	0.027	0.120
-237					-15	3.375	0.027	0.120
-238					-16	3.500	0.027	0.120
-239					-17	3.625	0.027	0.120
-240					-18	3.750	0.027	0.120
-241					-19	3.875	0.027	0.120
-242					-20	4.000	0.027	0.120
-243					-21	4.125	0.027	0.120
-244					-22	4.250	0.027	0.120
-245					-23	4.375	0.027	0.120
-246					-24	4.500	0.027	0.120
-247					-25	4.625	0.027	0.120
-248 through -324	No corresponding backup rings.							
-325	-28	1.500	0.034	0.185				
-326	-29	1.625	0.034	0.185				
-327	-30	1.750	0.034	0.185				
-328	-31	1.875	0.034	0.185				
-329	-32	2.000	0.034	0.185				

Chart 2B-2 (contd)

DOUBLE-TURN BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	MS28782				MS28783			
Standard Dash No.	Dash No.	ID	T	W	Dash No.	ID	T	W
-330	-33	2.125	0.034	0.185				
-331	-34	2.250	0.034	0.185				
-332	-35	2.375	0.034	0.185				
-333	-36	2.500	0.034	0.185				
-334	-37	2.625	0.034	0.185				
-335	-38	2.750	0.034	0.185				
-336	-39	2.875	0.034	0.185				
-337	-40	3.000	0.034	0.185				
-338	-41	3.125	0.034	0.185				
-339	-42	3.250	0.034	0.185				
-340	-43	3.375	0.034	0.185				
-341	-44	3.500	0.034	0.185				
-342	-45	3.625	0.034	0.185				
-343	-46	3.750	0.034	0.185				
-344	-47	3.875	0.034	0.185				
-345	-48	4.000	0.034	0.185				
-346	-49	4.125	0.034	0.185				
-347	-50	4.250	0.034	0.185				
-348	-51	4.375	0.034	0.185				
-349	-52	4.500	0.034	0.185				
-350 through -424	No corresponding backup rings.							
-425	-88	4.500	0.049	0.238				
-426	-53	4.625	0.049	0.238				
-427	-54	4.750	0.049	0.238				
-428	-55	4.875	0.049	0.238				
-429	-56	5.000	0.049	0.238				
-430	-57	5.125	0.049	0.238				
-431	-58	5.250	0.049	0.238				
-432	-59	5.375	0.049	0.238				
-433	-60	5.500	0.049	0.238				
-434	-61	5.625	0.049	0.238				
-435	-62	5.750	0.049	0.238				
-436	-63	5.875	0.049	0.238				
-437	-64	6.000	0.049	0.238				
-438	-65	6.250	0.049	0.238				
-439	-66	6.500	0.049	0.238				
-440	-67	6.750	0.049	0.238				
-441	-68	7.000	0.049	0.238				
-442	-69	7.250	0.049	0.238				
-443	-70	7.500	0.049	0.238				
-444	-71	7.750	0.049	0.238				
-445	-72	8.000	0.049	0.238				
-446	-73	8.500	0.049	0.238				
-447	-74	9.000	0.049	0.238				
-448	-75	9.500	0.049	0.238				
-449	-76	10.000	0.049	0.238				
-450	-77	10.500	0.049	0.238				
-451	-78	11.000	0.049	0.238				
-452	-79	11.500	0.049	0.238				
-453	-80	12.000	0.049	0.238				
-454	-81	12.500	0.049	0.238				
-455	-82	13.000	0.049	0.238				
-456	-83	13.500	0.049	0.238				
-457	-84	14.000	0.049	0.238				
-458	-85	14.500	0.049	0.238				
-459	-86	15.000	0.049	0.238				
-460	-87	15.500	0.049	0.238				
-461 through -475	No corresponding backup rings.							

Chart 2B-3

CONTINUOUS BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	MS27595			
Standard Dash No.	DASH NO.	ID	T	W
-001 through -003	No corresponding backup rings.			
-004	-004	0.080	0.050	0.055
-005	-005	0.111	0.050	0.055
-006	-006	0.125	0.050	0.055
-007	-007	0.156	0.050	0.055
-008	-008	0.187	0.050	0.055
-009	-009	0.219	0.050	0.055
-010	-010	0.250	0.050	0.055
-011	-011	0.312	0.050	0.055
-012	-012	0.375	0.050	0.055
-013	-013	0.440	0.050	0.055
-014	-014	0.503	0.050	0.055
-015	-015	0.565	0.050	0.055
-016	-016	0.628	0.050	0.055
-017	-017	0.690	0.050	0.055
-018	-018	0.753	0.050	0.055
-019	-019	0.815	0.050	0.055
-020	-020	0.881	0.050	0.055
-021	-021	0.943	0.050	0.055
-022	-022	1.006	0.050	0.055
-023	-023	1.068	0.050	0.055
-024	-024	1.131	0.050	0.055
-025	-025	1.193	0.050	0.055
-026	-026	1.256	0.050	0.055
-027	-027	1.318	0.050	0.055
-028	-028	1.381	0.050	0.055
-029 through -109	No corresponding backup rings.			
-110	-110	0.374	0.050	0.088
-111	-111	0.437	0.050	0.088
-112	-112	0.499	0.050	0.088
-113	-113	0.562	0.050	0.088
-114	-114	0.624	0.050	0.088
-115	-115	0.687	0.050	0.088
-116	-116	0.749	0.050	0.088
-117	-117	0.815	0.050	0.088
-118	-118	0.877	0.050	0.088
-119	-119	0.940	0.050	0.088
-120	-120	1.002	0.050	0.088
-121	-121	1.065	0.050	0.088
-122	-122	1.127	0.050	0.088
-123	-123	1.190	0.050	0.088
-124	-124	1.252	0.050	0.088
-125	-125	1.315	0.050	0.088
-126	-126	1.377	0.050	0.088
-127	-127	1.440	0.050	0.088
-128	-128	1.502	0.050	0.088
-129	-129	1.565	0.050	0.088
-130	-130	1.629	0.050	0.088
-131	-131	1.691	0.050	0.088
-132	-132	1.754	0.050	0.088
-133	-133	1.816	0.050	0.088
-134	-134	1.879	0.050	0.088
-135	-135	1.942	0.050	0.088
-136	-136	2.004	0.050	0.088
-137	-137	2.067	0.050	0.088
-138	-138	2.129	0.050	0.088
-139	-139	2.192	0.050	0.088
-140	-140	2.254	0.050	0.088
-141	-141	2.317	0.050	0.088
-142	-142	2.379	0.050	0.088
-143	-143	2.442	0.050	0.088
-144	-144	2.504	0.050	0.088
-145	-145	2.567	0.050	0.088
-146	-146	2.629	0.050	0.088
-147	-147	2.692	0.050	0.088
-148	-148	2.754	0.050	0.088
-149	-149	2.817	0.050	0.088
-150 through -209	No corresponding backup rings.			
-210	-210	0.753	0.050	0.119
-211	-211	0.815	0.050	0.119
-212	-212	0.878	0.050	0.119
-213	-213	0.940	0.050	0.119
-214	-214	1.003	0.050	0.119
-215	-215	1.065	0.050	0.119
-216	-216	1.128	0.050	0.119
-217	-217	1.190	0.050	0.119
-218	-218	1.253	0.050	0.119
-219	-219	1.315	0.050	0.119
-220	-220	1.378	0.050	0.119
-221	-221	1.440	0.050	0.119
-222	-222	1.503	0.050	0.119
-223	-223	1.629	0.050	0.119
-224	-224	1.754	0.050	0.119
-225	-225	1.880	0.050	0.119
-226	-226	2.005	0.050	0.119
-227	-227	2.130	0.050	0.119
-228	-228	2.255	0.050	0.119
-229	-229	2.380	0.050	0.119
-230	-230	2.505	0.050	0.119
-231	-231	2.630	0.050	0.119
-232	-232	2.755	0.050	0.119
-233	-233	2.880	0.050	0.119
-234	-234	3.005	0.050	0.119
-235	-235	3.130	0.050	0.119
-236	-236	3.255	0.050	0.119
-237	-237	3.380	0.050	0.119
-238	-238	3.505	0.050	0.119
-239	-239	3.630	0.050	0.119
-240	-240	3.755	0.050	0.119
-241	-241	3.880	0.050	0.119
-242	-242	4.005	0.050	0.119
-243	-243	4.130	0.050	0.119
-244	-244	4.255	0.050	0.119
-245	-245	4.380	0.050	0.119
-246	-246	4.505	0.050	0.119
-247	-247	4.630	0.050	0.119
-248 through -324	No corresponding backup rings.			
-325	-325	1.497	0.073	0.185
-326	-326	1.622	0.073	0.185
-327	-327	1.748	0.073	0.185
-328	-328	1.873	0.073	0.185
-329	-329	1.998	0.073	0.185
-330	-330	2.123	0.073	0.185
-331	-331	2.248	0.073	0.185
-332	-332	2.373	0.073	0.185
-333	-333	2.498	0.073	0.185
-334	-334	2.623	0.073	0.185
-335	-335	2.748	0.073	0.185
-336	-336	2.873	0.073	0.185
-337	-337	2.998	0.073	0.185
-338	-338	3.123	0.073	0.185
-339	-339	3.248	0.073	0.185
-340	-340	3.373	0.073	0.185
-341	-341	3.498	0.073	0.185
-342	-342	3.623	0.073	0.185
-343	-343	3.748	0.073	0.185
-344	-344	3.873	0.073	0.185
-345	-345	3.998	0.073	0.185
-346	-346	4.123	0.073	0.185
-347	-347	4.248	0.073	0.185
-348	-348	4.373	0.073	0.185
-349	-349	4.498	0.073	0.185

Chart 2B-3 (contd) — CONTINUOUS BACKUP RINGS for Use With GLAND O-RINGS in MIL-H-5606 and MIL-H83282 HYDRAULIC FLUIDS

ASA 568A Standard Dash No.	MS27595 Dash No.	ID	T	W	AS 568A Standard Dash No.	MS27595 Dash No.	ID	T	W
-350 through -424	No corresponding backup rings.				-443	-443	7.502	0.108	0.236
-425	-425	4.502	0.108	0.236	-444	-444	7.752	0.108	0.236
-426	-426	4.627	0.108	0.236	-445	-445	8.002	0.108	0.236
-427	-427	4.752	0.108	0.236	-446	-446	8.502	0.108	0.236
-428	-428	4.877	0.108	0.236	-447	-447	9.002	0.108	0.236
-429	-429	5.002	0.108	0.236	-448	-448	9.502	0.108	0.236
-430	-430	5.127	0.108	0.236	-449	-449	10.002	0.108	0.236
-431	-431	5.252	0.108	0.236	-450	-450	10.502	0.108	0.236
-432	-432	5.377	0.108	0.236	-451	-451	11.002	0.108	0.236
-433	-433	5.502	0.108	0.236	-452	-452	11.502	0.108	0.236
-434	-434	5.627	0.108	0.236	-453	-453	12.002	0.108	0.236
-435	-435	5.752	0.108	0.236	-454	-454	12.502	0.108	0.236
-436	-436	5.877	0.108	0.236	-455	-455	13.002	0.108	0.236
-437	-437	6.002	0.108	0.236	-456	-456	13.502	0.108	0.236
-438	-438	6.252	0.108	0.236	-457	-457	14.002	0.108	0.236
-439	-439	6.502	0.108	0.236	-458	-458	14.502	0.108	0.236
-440	-440	6.752	0.108	0.236	-459	-459	15.002	0.108	0.236
-441	-441	7.002	0.108	0.236	-460	-460	15.502	0.108	0.236
-442	-442	7.252	0.108	0.236	-461 through -475	No corresponding backup rings.			

Chart 2C — BOSS O-RINGS for Use in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A Standard Dash No.	Nominal Dimensions TUBE OD	ID	W	AN6290	LS4634	MS28778	STSPK300	3( )N168-80
-901	3/32	0.185	0.056					-901
-902	1/8	0.239	0.064	-2	-2	-2	-02	-902
-903	3/16	0.301	0.064	-3	-3	-3	-03	-903
-904	1/4	0.351	0.072	-4	-4	-4	-04	-904
-905	5/16	0.414	0.072	-5	-5	-5	-05	-905
-906	3/8	0.468	0.078	-6	-6	-6	-06	-906
-907	7/16	0.530	0.082					-907
-908	1/2	0.644	0.087	-8	-8	-8	-08	-908
-909	9/16	0.706	0.097					-909
-910	5/8	0.755	0.097	-10	-10	-10	-10	-910
-911	11/16	0.863	0.116					-911
-912	3/4	0.924	0.116	-12	-12	-12		-912
-913	13/16	0.986	0.116					-913
-914	7/8	1.047	0.116					-914
-916	1	1.171	0.116	-16	-16	-16	-16	-916
-918	1-1/8	1.355	0.116					-918
-920	1-1/4	1.475	0.118	-20	-20	-20	-20	-920
-924	1-1/2	1.720	0.118	-24	-24	-24	-24	-924
-928	1-3/4	2.090	0.118	-28	-28	-28	-28	-928
-932	2	2.337	0.118	-32	-32	-32	-32	-932

AS 568A Standard Dash No.	Nominal Dimensions TUBE OD	ID	W	3( )N756-76	3( )PS1-30-5	NAS1595	NAS1596	M83248/2
-901	3/32	0.185	0.056	-901	-901			-901
-902	1/8	0.239	0.064	-902	-902	-2	-2	-902
-903	3/16	0.301	0.064	-903	-903	-3	-3	-903
-904	1/4	0.351	0.072	-904	-904	-4	-4	-904
-905	5/16	0.414	0.072	-905	-905	-5	-5	-905
-906	3/8	0.468	0.078	-906	-906	-6	-6	-906
-907	7/16	0.530	0.082	-907	-907			-907
-908	1/2	0.644	0.087	-908	-908	-8	-8	-908
-909	9/16	0.706	0.097	-909	-909			-909
-910	5/8	0.755	0.097	-910	-910	-10	-10	-910
-911	11/16	0.863	0.116	-911	-911			-911
-912	3/4	0.924	0.116	-912	-912	-12	-12	-912
-913	13/16	0.986	0.116	-913	-913			-913
-914	7/8	1.047	0.116	-914	-914			-914
-916	1	1.171	0.116	-916	-916	-16	-16	-916
-918	1-1/8	1.355	0.116	-918	-918			-918
-920	1-1/4	1.475	0.118	-920	-920	-20	-20	-920
-924	1-1/2	1.720	0.118	-924	-924	-24	-24	-924
-928	1-3/4	2.090	0.118	-928	-928	-28	-28	-928
-932	2	2.337	0.118	-932	-932	-32	-32	-932

Chart 2D

BACKUP RINGS for Use With BOSS O-RINGS in MIL-H-5606 and MIL-H-83282 HYDRAULIC FLUIDS

AS 568A	NOMINAL	LS4764				MS9058			
Standard Dash No.	TUBE OD	DASH NO.	ID	T	W	DASH NO.	ID	T	W
-901	3/32								
-902	1/8					-02	0.246	0.056	0.112
-903	3/16	-3	0.308	0.045	0.116	-03	0.309	0.056	0.112
-904	1/4	-4	0.360	0.051	0.117	-04	0.360	0.061	0.117
-905	5/16	-5	0.423	0.051	0.117	-05	0.423	0.061	0.117
-906	3/8	-6	0.478	0.051	0.121	-06	0.478	0.061	0.121
-907	7/16					-07	0.549	0.061	0.121
-908	1/2	-8	0.656	0.051	0.125	-08	0.656	0.061	0.125
-909	9/16					-09	0.718	0.061	0.125
-910	5/8	-10	0.769	0.063	0.131	-10	0.769	0.073	0.131
-911	11/16					-11	0.878	0.073	0.159
-912	3/4	-12	0.941	0.063	0.170	-12	0.941	0.073	0.169
-913	13/16								
-914	7/8					-14	1.066	0.073	0.169
-916	1	-16	1.191	0.063	0.168	-16	1.191	0.073	0.169
-918	1-1/8					-18	1.378	0.073	0.169
-920	1-1/4	-20	1.503	0.063	0.169	-20	1.503	0.073	0.169
-924	1-1/2	-24	1.752	0.063	0.169	-24	1.752	0.073	0.169
-928	1-3/4	-28	2.127	0.063	0.169	-28	2.127	0.073	0.169
-932	2	-32	2.377	0.063	0.169	-32	2.377	0.073	0.169

AS 568A	NOMINAL	MS28773			
Standard Dash No.	TUBE OD	DASH NO.	ID	T	W
-901	3/32				
-902	1/8	-02	0.246	0.056	0.112
-903	3/16	-03	0.309	0.056	0.112
-904	1/4	-04	0.360	0.061	0.117
-905	5/16	-05	0.423	0.061	0.117
-906	3/8	-06	0.478	0.061	0.121
-907	7/16				
-908	1/2	-08	0.656	0.061	0.125
-909	9/16				
-910	5/8	-10	0.769	0.073	0.131
-911	11/16				
-912	3/4	-12	0.941	0.073	0.169
-913	13/16				
-914	7/8				
-916	1	-16	1.191	0.073	0.169
-918	1-1/8				
-920	1-1/4	-20	1.503	0.073	0.169
-924	1-1/2	-24	1.752	0.073	0.169
-928	1-3/4	-28	2.127	0.073	0.169
-932	2	-32	2.377	0.073	0.169

Chart 3A

GLAND O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A	Nominal Dimensions		AN123856 to								
Standard Dash No.	ID	W	AN123934	LS5041	MS9241	MS29561	M25988/1	M83248/1	NAS1593	NAS1594	AS3551
-001	0.029	0.040			-001		-001	-001			-001
-002	0.042	0.050			-002		-002	-002			-002
-003	0.056	0.060			-003		-003	-003			-003
-004	0.070	0.070			-004	-004	-004	-004	-004	-004	-004
-005	0.101	0.070			-005	-005	-005	-005	-005	-005	-005
-006	0.114	0.070	AN123856		-006	-006	-006	-006	-006	-006	-006
-007	0.145	0.070	AN123857		-007	-007	-007	-007	-007	-007	-007
-008	0.176	0.070	AN123858	-31	-008	-008	-008	-008	-008	-008	-008
-009	0.208	0.070	AN123859	-29	-009	-009	-009	-009	-009	-009	-009
-010	0.239	0.070	AN123860	-36	-010	-010	-010	-010	-010	-010	-010
-011	0.301	0.070	AN123861		-011	-011	-011	-011	-011	-011	-011
-012	0.364	0.070	AN123862		-012	-012	-012	-012	-012	-012	-012
-013	0.426	0.070		-32	-013	-013	-013	-013	-013	-013	-013
-014	0.489	0.070			-014	-014	-014	-014	-014	-014	-014
-015	0.551	0.070			-015	-015	-015	-015	-015	-015	-015
-016	0.614	0.070			-016	-016	-016	-016	-016	-016	-016
-017	0.676	0.070			-017	-017	-017	-017	-017	-017	-017
-018	0.739	0.070			-018	-018	-018	-018	-018	-018	-018
-019	0.801	0.070			-019	-019	-019	-019	-019	-019	-019
-020	0.864	0.070			-020	-020	-020	-020	-020	-020	-020
-021	0.926	0.070			-021	-021	-021	-021	-021	-021	-021
-022	0.989	0.070			-022	-022	-022	-022	-022	-022	-022
-023	1.051	0.070			-023	-023	-023	-023	-023	-023	-023
-024	1.114	0.070			-024	-024	-024	-024	-024	-024	-024
-025	1.176	0.070			-025	-025	-025	-025	-025	-025	-025
-026	1.239	0.070			-026	-026	-026	-026	-026	-026	-026
-027	1.301	0.070			-027	-027	-027	-027	-027	-027	-027
-028	1.364	0.070			-028	-028	-028	-028	-028	-028	-028
-029	1.489	0.070			-029		-029	-029	-029	-029	-029
-030	1.614	0.070			-030		-030	-030	-030	-030	-030
-031	1.739	0.070			-031		-031	-031	-031	-031	-031
-032	1.864	0.070			-032		-032	-032	-032	-032	-032
-033	1.989	0.070			-033		-033	-033	-033	-033	-033
-034	2.114	0.070			-034		-034	-034	-034	-034	-034
-035	2.239	0.070			-035		-035	-035	-035	-035	-035
-036	2.364	0.070			-036		-036	-036	-036	-036	-036
-037	2.489	0.070			-037		-037	-037	-037	-037	-037
-038	2.614	0.070			-038		-038	-038	-038	-038	-038
-039	2.739	0.070			-039		-039	-039	-039	-039	-039
-040	2.864	0.070			-040		-040	-040	-040	-040	-040
-041	2.989	0.070			-041		-041	-041	-041	-041	-041
-042	3.239	0.070			-042		-042	-042	-042	-042	-042
-043	3.489	0.070			-043		-043	-043	-043	-043	-043
-044	3.739	0.070			-044		-044	-044	-044	-044	-044
-045	3.989	0.070			-045		-045	-045	-045	-045	-045
-046	4.239	0.070			-046		-046	-046	-046	-046	-046
-047	4.489	0.070			-047		-047	-047	-047	-047	-047
-048	4.739	0.070			-048		-048	-048	-048	-048	-048
-049	4.989	0.070			-049		-049	-049	-049	-049	-049
-050	5.239	0.070			-050		-050	-050	-050	-050	-050
-051 through -101	O-ring sizes not assigned.										
-102	0.049	0.103			-102		-102	-102			-102
-103	0.081	0.103			-103		-103	-103			-103
-104	0.112	0.103			-104		-104	-104			-104
-105	0.143	0.103			-105		-105	-105			-105
-106	0.174	0.103			-106		-106	-106			-106
-107	0.206	0.103			-107		-107	-107			-107
-108	0.237	0.103			-108		-108	-108			-108
-109	0.299	0.103			-109		-109	-109			-109
-110	0.362	0.103	AN123863		-110	-110	-110	-110	-110	-110	-110
-111	0.424	0.103	AN123864		-111	-111	-111	-111	-111	-111	-111
-112	0.487	0.103	AN123865	-37	-112	-112	-112	-112	-112	-112	-112
-113	0.549	0.103	AN123866	-28	-113	-113	-113	-113	-113	-113	-113
-114	0.612	0.103	AN123867		-114	-114	-114	-114	-114	-114	-114
-115	0.674	0.103	AN123868	-41	-115	-115	-115	-115	-115	-115	-115
-116	0.737	0.103	AN123869	-1	-116	-116	-116	-116	-116	-116	-116
-117	0.799	0.103			-117	-117	-117	-117	-117	-117	-117
-118	0.862	0.103			-118	-118	-118	-118	-118	-118	-118
-119	0.924	0.103			-119	-119	-119	-119	-119	-119	-119
-120	0.987	0.103			-120	-120	-120	-120	-120	-120	-120
-121	1.049	0.103			-121	-121	-121	-121	-121	-121	-121
-122	1.112	0.103		-30	-122	-122	-122	-122	-122	-122	-122
-123	1.174	0.103			-123	-123	-123	-123	-123	-123	-123
-124	1.237	0.103			-124	-124	-124	-124	-124	-124	-124
-125	1.299	0.103			-125	-125	-125	-125	-125	-125	-125
-126	1.362	0.103			-126	-126	-126	-126	-126	-126	-126
-127	1.424	0.103			-127	-127	-127	-127	-127	-127	-127
-128	1.487	0.103			-128	-128	-128	-128	-128	-128	-128
-129	1.549	0.103		-39	-129	-129	-129	-129	-129	-129	-129
-130	1.612	0.103			-130	-130	-130	-130	-130	-130	-130
-131	1.674	0.103			-131	-131	-131	-131	-131	-131	-131

Chart 3A (contd)

GLAND O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123856 to AN123934	LS5041	MS9241	MS29561	M25988/1	M83248/1	NAS1593	NAS1594	AS3551
-132	1.737	0.103			-132	-132	-132	-132	-132	-132	-132
-133	1.799	0.103			-133	-133	-133	-133	-133	-133	-133
-134	1.862	0.103			-134	-134	-134	-134	-134	-134	-134
-135	1.925	0.103			-135	-135	-135	-135	-135	-135	-135
-136	1.987	0.103			-136	-136	-136	-136	-136	-136	-136
-137	2.050	0.103			-137	-137	-137	-137	-137	-137	-137
-138	2.112	0.103		-2	-138	-138	-138	-138	-138	-138	-138
-139	2.175	0.103			-139	-139	-139	-139	-139	-139	-139
-140	2.237	0.103			-140	-140	-140	-140	-140	-140	-140
-141	2.300	0.103			-141	-141	-141	-141	-141	-141	-141
-142	2.362	0.103			-142	-142	-142	-142	-142	-142	-142
-143	2.425	0.103		-3	-143	-143	-143	-143	-143	-143	-143
-144	2.487	0.103			-144	-144	-144	-144	-144	-144	-144
-145	2.550	0.103			-145	-145	-145	-145	-145	-145	-145
-146	2.612	0.103			-146	-146	-146	-146	-146	-146	-146
-147	2.675	0.103			-147	-147	-147	-147	-147	-147	-147
-148	2.737	0.103			-148	-148	-148	-148	-148	-148	-148
-149	2.800	0.103			-149	-149	-149	-149	-149	-149	-149
-150	2.862	0.103			-150		-150	-150	-150	-150	-150
-151	2.987	0.103			-151		-151	-151	-151	-151	-151
-152	3.237	0.103			-152		-152	-152	-152	-152	-152
-153	3.487	0.103			-153		-153	-153	-153	-153	-153
-154	3.737	0.103			-154		-154	-154	-154	-154	-154
-155	3.987	0.103			-155		-155	-155	-155	-155	-155
-156	4.237	0.103			-156		-156	-156	-156	-156	-156
-157	4.487	0.103			-157		-157	-157	-157	-157	-157
-158	4.737	0.103			-158		-158	-158	-158	-158	-158
-159	4.987	0.103			-159		-159	-159	-159	-159	-159
-160	5.237	0.103			-160		-160	-160	-160	-160	-160
-161	5.487	0.103			-161		-161	-161	-161	-161	-161
-162	5.737	0.103			-162		-162	-162	-162	-162	-162
-163	5.987	0.103			-163		-163	-163	-163	-163	-163
-164	6.237	0.103			-164		-164	-164	-164	-164	-164
-165	6.487	0.103			-165		-165	-165	-165	-165	-165
-166	6.737	0.103			-166		-166	-166	-166	-166	-166
-167	6.987	0.103			-167		-167	-167	-167	-167	-167
-168	7.237	0.103			-168		-168	-168	-168	-168	-168
-169	7.487	0.103			-169		-169	-169	-169	-169	-169
-170	7.737	0.103			-170		-170	-170	-170	-170	-170
-171	7.987	0.103			-171		-171	-171	-171	-171	-171
-172	8.237	0.103			-172		-172	-172	-172	-172	-172
-173	8.487	0.103			-173		-173	-173	-173	-173	-173
-174	8.737	0.103			-174		-174	-174	-174	-174	-174
-175	8.987	0.103			-175		-175	-175	-175	-175	-175
-176	9.237	0.103			-176		-176	-176	-176	-176	-176
-177	9.487	0.103			-177		-177	-177	-177	-177	-177
-178	9.737	0.103			-178		-178	-178	-178	-178	-178
-179 through -200	O-ring sizes not assigned.										
-201	0.171	0.139			-201		-201	-201			-201
-202	0.234	0.139			-202		-202	-202			-202
-203	0.296	0.139			-203		-203	-203			-203
-204	0.359	0.139			-204		-204	-204			-204
-205	0.421	0.139			-205		-205	-205			-205
-206	0.484	0.139			-206		-206	-206			-206
-207	0.546	0.139			-207		-207	-207			-207
-208	0.609	0.139			-208		-208	-208			-208
-209	0.671	0.139			-209		-209	-209			-209
-210	0.734	0.139	AN123870		-210	-210	-210	-210	-210	-210	-210
-211	0.796	0.139	AN123871		-211	-211	-211	-211	-211	-211	-211
-212	0.859	0.139	AN123872		-212	-212	-212	-212	-212	-212	-212
-213	0.921	0.139	AN123873		-213	-213	-213	-213	-213	-213	-213
-214	0.984	0.139	AN123874		-214	-214	-214	-214	-214	-214	-214
-215	1.046	0.139	AN123875	-42	-215	-215	-215	-215	-215	-215	-215
-216	1.109	0.139	AN123876		-216	-216	-216	-216	-216	-216	-216
-217	1.171	0.139	AN123877	-34	-217	-217	-217	-217	-217	-217	-217
-218	1.234	0.139	AN123878	-35	-218	-218	-218	-218	-218	-218	-218
-219	1.296	0.139	AN123879		-219	-219	-219	-219	-219	-219	-219
-220	1.359	0.139	AN123880		-220	-220	-220	-220	-220	-220	-220
-221	1.421	0.139	AN123881		-221	-221	-221	-221	-221	-221	-221
-222	1.484	0.139	AN123882		-222	-222	-222	-222	-222	-222	-222
-223	1.609	0.139	AN123883	-9	-223	-223	-223	-223	-223	-223	-223
-224	1.734	0.139	AN123884		-224	-224	-224	-224	-224	-224	-224
-225	1.859	0.139	AN123885		-225	-225	-225	-225	-225	-225	-225
-226	1.984	0.139	AN123886		-226	-226	-226	-226	-226	-226	-226
-227	2.109	0.139	AN123887	-38	-227	-227	-227	-227	-227	-227	-227
-228	2.234	0.139	AN123888	-10	-228	-228	-228	-228	-228	-228	-228
-229	2.359	0.139	AN123889		-229	-229	-229	-229	-229	-229	-229
-230	2.484	0.139	AN123890	-33	-230	-230	-230	-230	-230	-230	-230
-231	2.609	0.139	AN123891	-26	-231	-231	-231	-231	-231	-231	-231
-232	2.734	0.139	AN123892	-27	-232	-232	-232	-232	-232	-232	-232
-233	2.859	0.139	AN123893		-233	-233	-233	-233	-233	-233	-233

Chart 3A (contd)

GLAND O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A	Nominal Dimensions		AN123856 to								
Standard Dash No.	ID	W	AN123934	LS5041	MS9241	MS29561	M25988/1	M83248/1	NAS1593	NAS1594	AS3551
-234	2.984	0.139	AN123894		-234	-234	-234	-234	-234	-234	-234
-235	3.109	0.139	AN123895		-235	-235	-235	-235	-235	-235	-235
-236	3.234	0.139	AN123896		-236	-236	-236	-236	-236	-236	-236
-237	3.359	0.139	AN123897		-237	-237	-237	-237	-237	-237	-237
-238	3.484	0.139	AN123898		-238	-238	-238	-238	-238	-238	-238
-239	3.609	0.139	AN123899		-239	-239	-239	-239	-239	-239	-239
-240	3.734	0.139	AN123900		-240	-240	-240	-240	-240	-240	-240
-241	3.859	0.139	AN123901		-241	-241	-241	-241	-241	-241	-241
-242	3.984	0.139	AN123902		-242	-242	-242	-242	-242	-242	-242
-243	4.109	0.139	AN123903		-243	-243	-243	-243	-243	-243	-243
-244	4.234	0.139	AN123904	-20	-244	-244	-244	-244	-244	-244	-244
-245	4.359	0.139	AN123905		-245	-245	-245	-245	-245	-245	-245
-246	4.484	0.139	AN123906		-246	-246	-246	-246	-246	-246	-246
-247	4.609	0.139	AN123907	-24	-247	-247	-247	-247	-247	-247	-247
-248	4.734	0.139	AN123908		-248	-248	-248	-248	-248	-248	-248
-249	4.859	0.139	AN123909		-249	-249	-249	-249	-249	-249	-249
-250	4.984	0.139	AN123910		-250	-250	-250	-250	-250	-250	-250
-251	5.109	0.139	AN123911		-251	-251	-251	-251	-251	-251	-251
-252	5.234	0.139	AN123912		-252	-252	-252	-252	-252	-252	-252
-253	5.359	0.139	AN123913	-11	-253	-253	-253	-253	-253	-253	-253
-254	5.484	0.139	AN123914		-254	-254	-254	-254	-254	-254	-254
-255	5.609	0.139	AN123915		-255	-255	-255	-255	-255	-255	-255
-256	5.734	0.139	AN123916		-256	-256	-256	-256	-256	-256	-256
-257	5.859	0.139	AN123917		-257	-257	-257	-257	-257	-257	-257
-258	5.984	0.139	AN123918		-258	-258	-258	-258	-258	-258	-258
-259	6.234	0.139	AN123919		-259	-259	-259	-259	-259	-259	-259
-260	6.484	0.139	AN123920		-260	-260	-260	-260	-260	-260	-260
-261	6.734	0.139	AN123921		-261	-261	-261	-261	-261	-261	-261
-262	6.984	0.139	AN123922	-25	-262	-262	-262	-262	-262	-262	-262
-263	7.234	0.139	AN123923	-21	-263	-263	-263	-263	-263	-263	-263
-264	7.484	0.139	AN123924		-264	-264	-264	-264	-264	-264	-264
-265	7.734	0.139	AN123925		-265	-265	-265	-265	-265	-265	-265
-266	7.984	0.139	AN123926		-266	-266	-266	-266	-266	-266	-266
-267	8.234	0.139	AN123927		-267	-267	-267	-267	-267	-267	-267
-268	8.484	0.139	AN123928		-268	-268	-268	-268	-268	-268	-268
-269	8.734	0.139	AN123929		-269	-269	-269	-269	-269	-269	-269
-270	8.984	0.139	AN123930		-270	-270	-270	-270	-270	-270	-270
-271	9.234	0.139	AN123931		-271	-271	-271	-271	-271	-271	-271
-272	9.484	0.139	AN123932		-272	-272	-272	-272	-272	-272	-272
-273	9.734	0.139	AN123933		-273	-273	-273	-273	-273	-273	-273
-274	9.984	0.139	AN123934		-274	-274	-274	-274	-274	-274	-274
-275	10.484	0.139			-275		-275	-275	-275	-275	-275
-276	10.984	0.139			-276		-276	-276	-276	-276	-276
-277	11.484	0.139			-277		-277	-277	-277	-277	-277
-278	11.984	0.139			-278		-278	-278	-278	-278	-278
-279	12.984	0.139			-279		-279	-279	-279	-279	-279
-280	13.984	0.139			-280		-280	-280	-280	-280	-280
-281	14.984	0.139			-281		-281	-281	-281	-281	-281
-282	15.955	0.139			-282		-282	-282			-282
-283	16.955	0.139			-283		-283	-283			-283
-284	17.955	0.139			-284		-284	-284			-284
-285 through -308	O-ring sizes not assigned.										
-309	0.412	0.210			-309		-309	-309			-309
-310	0.475	0.210			-310		-310	-310			-310
-311	0.537	0.210			-311		-311	-311			-311
-312	0.600	0.210			-312		-312	-312			-312
-313	0.662	0.210			-313		-313	-313			-313
-314	0.725	0.210			-314		-314	-314			-314
-315	0.787	0.210			-315		-315	-315			-315
-316	0.850	0.210			-316		-316	-316			-316
-317	0.912	0.210			-317		-317	-317			-317
-318	0.975	0.210			-318		-318	-318			-318
-319	1.037	0.210			-319		-319	-319			-319
-320	1.100	0.210			-320		-320	-320			-320
-321	1.162	0.210			-321		-321	-321			-321
-322	1.225	0.210			-322		-322	-322			-322
-323	1.289	0.210			-323		-323	-323			-323
-324	1.350	0.210			-324		-324	-324			-324
-325	1.475	0.210		-12	-325	-325	-325	-325	-325	-325	-325
-326	1.600	0.210			-326	-326	-326	-326	-326	-326	-326
-327	1.725	0.210			-327	-327	-327	-327	-327	-327	-327
-328	1.850	0.210			-328	-328	-328	-328	-328	-328	-328
-329	1.975	0.210		-18	-329	-329	-329	-329	-329	-329	-329
-330	2.100	0.210			-330	-330	-330	-330	-330	-330	-330
-331	2.225	0.210			-331	-331	-331	-331	-331	-331	-331
-332	2.350	0.210			-332	-332	-332	-332	-332	-332	-332
-333	2.475	0.210		-19	-333	-333	-333	-333	-333	-333	-333
-334	2.600	0.210			-334	-334	-334	-334	-334	-334	-334
-335	2.725	0.210			-335	-335	-335	-335	-335	-335	-335
-336	2.850	0.210			-336	-336	-336	-336	-336	-336	-336
-337	2.975	0.210			-337	-337	-337	-337	-337	-337	-337

Chart 3A (contd)

GLAND O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123856 to AN123934	LS5041	MS9241	MS29561	M25988/1	M83248/1	NAS1593	NAS1594	AS3551
-338	3.100	0.210			-338	-338	-338	-338	-338	-338	-338
-339	3.225	0.210			-339	-339	-339	-339	-339	-339	-339
-340	3.350	0.210			-340	-340	-340	-340	-340	-340	-340
-341	3.475	0.210			-341	-341	-341	-341	-341	-341	-341
-342	3.600	0.210			-342	-342	-342	-342	-342	-342	-342
-343	3.725	0.210			-343	-343	-343	-343	-343	-343	-343
-344	3.850	0.210			-344	-344	-344	-344	-344	-344	-344
-345	3.975	0.210			-345	-345	-345	-345	-345	-345	-345
-346	4.100	0.210			-346	-346	-346	-346	-346	-346	-346
-347	4.225	0.210			-347	-347	-347	-347	-347	-347	-347
-348	4.350	0.210			-348	-348	-348	-348	-348	-348	-348
-349	4.475	0.210			-349	-349	-349	-349	-349	-349	-349
-350	4.600	0.210			-350		-350	-350			-350
-351	4.725	0.210			-351		-351	-351			-351
-352	4.850	0.210			-352		-352	-352			-352
-353	4.975	0.210			-353		-353	-353			-353
-354	5.100	0.210			-354		-354	-354			-354
-355	5.225	0.210			-355		-355	-355			-355
-356	5.350	0.210			-356		-356	-356			-356
-357	5.475	0.210			-357		-357	-357			-357
-358	5.600	0.210			-358		-358	-358			-358
-359	5.725	0.210			-359		-359	-359			-359
-360	5.850	0.210			-360		-360	-360			-360
-361	5.975	0.210			-361		-361	-361			-361
-362	6.225	0.210			-362		-362	-362			-362
-363	6.475	0.210			-363		-363	-363			-363
-364	6.725	0.210			-364		-364	-364			-364
-365	6.975	0.210			-365		-365	-365			-365
-366	7.225	0.210			-366		-366	-366			-366
-367	7.475	0.210			-367		-367	-367			-367
-368	7.725	0.210			-368		-368	-368			-368
-369	7.975	0.210			-369		-369	-369			-369
-370	8.225	0.210			-370		-370	-370			-370
-371	8.475	0.210			-371		-371	-371			-371
-372	8.725	0.210			-372		-372	-372			-372
-373	8.975	0.210			-373		-373	-373			-373
-374	9.225	0.210			-374		-374	-374			-374
-375	9.475	0.210			-375		-375	-375			-375
-376	9.725	0.210			-376		-376	-376			-376
-377	9.975	0.210			-377		-377	-377			-377
-378	10.475	0.210			-378		-378	-378			-378
-379	10.975	0.210			-379		-379	-379			-379
-380	11.475	0.210			-380		-380	-380			-380
-381	11.975	0.210			-381		-381	-381			-381
-382	12.975	0.210			-382		-382	-382			-382
-383	13.975	0.210			-383		-383	-383			-383
-384	14.975	0.210			-384		-384	-384			-384
-385	15.955	0.210			-385		-385	-385			-385
-386	16.955	0.210			-386		-386	-386			-386
-387	17.955	0.210			-387		-387	-387			-387
-388	18.955	0.210			-388		-388	-388			-388
-389	19.955	0.210			-389		-389	-389			-389
-390	20.955	0.210			-390		-390	-390			-390
-391	21.955	0.210			-391		-391	-391			-391
-392	22.940	0.210			-392		-392	-392			-392
-393	23.940	0.210			-393		-393	-393			-393
-394	24.940	0.210			-394		-394	-394			-394
-395	25.940	0.210			-395		-395	-395			-395
-396 through -424	O-ring sizes not assigned.										
-425	4.475	0.275			-425	-425	-425	-425	-425	-425	-425
-426	4.600	0.275			-426	-426	-426	-426	-426	-426	-426
-427	4.725	0.275			-427	-427	-427	-427	-427	-427	-427
-428	4.850	0.275			-428	-428	-428	-428	-428	-428	-428
-429	4.975	0.275			-429	-429	-429	-429	-429	-429	-429
-430	5.100	0.275			-430	-430	-430	-430	-430	-430	-430
-431	5.225	0.275			-431	-431	-431	-431	-431	-431	-431
-432	5.350	0.275			-432	-432	-432	-432	-432	-432	-432
-433	5.475	0.275			-433	-433	-433	-433	-433	-433	-433
-434	5.600	0.275			-434	-434	-434	-434	-434	-434	-434
-435	5.725	0.275			-435	-435	-435	-435	-435	-435	-435
-436	5.850	0.275			-436	-436	-436	-436	-436	-436	-436
-437	5.975	0.275			-437	-437	-437	-437	-437	-437	-437
-438	6.225	0.275			-438	-438	-438	-438	-438	-438	-438
-439	6.475	0.275			-439	-439	-439	-439	-439	-439	-439
-440	6.725	0.275		-14	-440	-440	-440	-440	-440	-440	-440
-441	6.975	0.275			-441	-441	-441	-441	-441	-441	-441
-442	7.225	0.275			-442	-442	-442	-442	-442	-442	-442
-443	7.475	0.275			-443	-443	-443	-443	-443	-443	-443
-444	7.725	0.275			-444	-444	-444	-444	-444	-444	-444
-445	7.975	0.275			-445	-445	-445	-445	-445	-445	-445
-446	8.475	0.275			-446	-446	-446	-446	-446	-446	-446

Chart 3A (contd) GLAND O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123856 to AN123934	LS5041	MS9241	MS29561	M25988/1	M83248/1	NAS1593	NAS1594	AS3551
-447	8.975	0.275		-23	-447	-447	-447	-447	-447	-447	-447
-448	9.475	0.275			-448	-448	-448	-448	-448	-448	-448
-449	9.975	0.275			-449	-449	-449	-449	-449	-449	-449
-450	10.475	0.275			-450	-450	-450	-450	-450	-450	-450
-451	10.975	0.275			-451	-451	-451	-451	-451	-451	-451
-452	11.475	0.275			-452	-452	-452	-452	-452	-452	-452
-453	11.975	0.275			-453	-453	-453	-453	-453	-453	-453
-454	12.475	0.275			-454	-454	-454	-454	-454	-454	-454
-455	12.975	0.275			-455	-455	-455	-455	-455	-455	-455
-456	13.475	0.275			-456	-456	-456	-456	-456	-456	-456
-457	13.975	0.275			-457	-457	-457	-457	-457	-457	-457
-458	14.475	0.275			-458	-458	-458	-458	-458	-458	-458
-459	14.975	0.275			-459	-459	-459	-459	-459	-459	-459
-460	15.475	0.275			-460	-460	-460	-460	-460	-460	-460
-461	15.955	0.275			-461		-461	-461			-461
-462	16.455	0.275			-462		-462	-462			-462
-463	16.955	0.275			-463		-463	-463			-463
-464	17.455	0.275			-464		-464	-464			-464
-465	17.955	0.275			-465		-465	-465			-465
-466	18.455	0.275			-466		-466	-466			-466
-467	18.955	0.275			-467		-467	-467			-467
-468	19.455	0.275			-468		-468	-468			-468
-469	19.955	0.275			-469		-469	-469			-469
-470	20.955	0.275			-470		-470	-470			-470
-471	21.955	0.275			-471		-471	-471			-471
-472	22.940	0.275			-472		-472	-472			-472
-473	23.940	0.275			-473		-473	-473			-473
-474	24.940	0.275			-474		-474	-474			-474
-475	25.940	0.275			-475		-475	-475			-475

Chart 3B BOSS O-RINGS for Use in MIL-L-7808 and MIL-L-23699 LUBRICATING OILS

AS 568A Standard Dash No.	Nominal Dimensions TUBE OD	ID	W	LS5041	MS9355	NAS617	NAS1595	NAS1596	M83248/2	AS3551
-901	3/32	0.185	0.056		-01				-901	-901
-902	1/8	0.239	0.064		-02	-2	-2	-2	-902	-902
-903	3/16	0.301	0.064	-17	-03	-3	-3	-3	-903	-903
-904	1/4	0.351	0.072	-4	-04	-4	-4	-4	-904	-904
-905	5/16	0.414	0.072		-05	-5	-5	-5	-905	-905
-906	3/8	0.468	0.078	-5	-06	-6	-6	-6	-906	-906
-907	7/16	0.530	0.082		-07				-907	-907
-908	1/2	0.644	0.087	-15	-08	-8	-8	-8	-908	-908
-909	9/16	0.706	0.097		-09				-909	-909
-910	5/8	0.755	0.097	-40	-10	-10	-10	-10	-910	-910
-911	11/16	0.863	0.116		-11				-911	-911
-912	3/4	0.924	0.116	-6	-12	-12	-12	-12	-912	-912
-913	13/16	0.986	0.116		-13				-913	-913
-914	7/8	1.047	0.116		-14				-914	-914
-916	1	1.171	0.116	-7	-16	-16	-16	-16	-916	-916
-918	1-1/8	1.355	0.116		-18				-918	-918
-920	1-1/4	1.475	0.118	-13	-20	-20	-20	-20	-920	-920
-924	1-1/2	1.720	0.118	-8	-24	-24	-24	-24	-924	-924
-928	1-3/4	2.090	0.118		-28	-28	-28	-28	-928	-928
-932	2	2.337	0.118		-32	-32	-32	-32	-932	-932

Chart 4A

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-001	0.029	0.040		-001	-001	-001			-001
-002	0.042	0.050		-002	-002	-002			-002
-003	0.056	0.060		-003	-003	-003			-003
-004	0.070	0.070		-004	-004	-004	-004	-004	-004
-005	0.101	0.070		-005	-005	-005	-005	-005	-005
-006	0.114	0.070	AN123956	-006	-006	-006	-006	-006	-006
-007	0.145	0.070	AN123957	-007	-007	-007	-007	-007	-007
-008	0.176	0.070	AN123958	-008	-008	-008	-008	-008	-008
-009	0.208	0.070	AN123959	-009	-009	-009	-009	-009	-009
-010	0.239	0.070	AN123960	-010	-010	-010	-010	-010	-010
-011	0.301	0.070	AN123961	-011	-011	-011	-011	-011	-011
-012	0.364	0.070	AN123962	-012	-012	-012	-012	-012	-012
-013	0.426	0.070		-013	-013	-013	-013	-013	-013
-014	0.489	0.070		-014	-014	-014	-014	-014	-014
-015	0.551	0.070		-015	-015	-015	-015	-015	-015
-016	0.614	0.070		-016	-016	-016	-016	-016	-016
-017	0.676	0.070		-017	-017	-017	-017	-017	-017
-018	0.739	0.070		-018	-018	-018	-018	-018	-018
-019	0.801	0.070		-019	-019	-019	-019	-019	-019
-020	0.864	0.070		-020	-020	-020	-020	-020	-020
-021	0.926	0.070		-021	-021	-021	-021	-021	-021
-022	0.989	0.070		-022	-022	-022	-022	-022	-022
-023	1.051	0.070		-023	-023	-023	-023	-023	-023
-024	1.114	0.070		-024	-024	-024	-024	-024	-024
-025	1.176	0.070		-025	-025	-025	-025	-025	-025
-026	1.239	0.070		-026	-026	-026	-026	-026	-026
-027	1.301	0.070		-027	-027	-027	-027	-027	-027
-028	1.364	0.070		-028	-028	-028	-028	-028	-028
-029	1.489	0.070		-029	-029	-029	-029	-029	-029
-030	1.614	0.070		-030	-030	-030	-030	-030	-030
-031	1.739	0.070		-031	-031	-031	-031	-031	-031
-032	1.864	0.070		-032	-032	-032	-032	-032	-032
-033	1.989	0.070		-033	-033	-033	-033	-033	-033
-034	2.114	0.070		-034	-034	-034	-034	-034	-034
-035	2.239	0.070		-035	-035	-035	-035	-035	-035
-036	2.364	0.070		-036	-036	-036	-036	-036	-036
-037	2.489	0.070		-037	-037	-037	-037	-037	-037
-038	2.614	0.070		-038	-038	-038	-038	-038	-038
-039	2.739	0.070		-039	-039	-039	-039	-039	-039
-040	2.864	0.070		-040	-040	-040	-040	-040	-040
-041	2.989	0.070		-041	-041	-041	-041	-041	-041
-042	3.239	0.070		-042	-042	-042	-042	-042	-042
-043	3.489	0.070		-043	-043	-043	-043	-043	-043
-044	3.739	0.070		-044	-044	-044	-044	-044	-044
-045	3.989	0.070		-045	-045	-045	-045	-045	-045
-046	4.239	0.070		-046	-046	-046	-046	-046	-046
-047	4.489	0.070		-047	-047	-047	-047	-047	-047
-048	4.739	0.070		-048	-048	-048	-048	-048	-048
-049	4.989	0.070		-049	-049	-049	-049	-049	-049
-050	5.239	0.070		-050	-050	-050	-050	-050	-050
-051 through -101	O-ring sizes not assigned.								
-102	0.049	0.103				-102			-102
-103	0.081	0.103				-103			-103
-104	0.112	0.103				-104			-104
-105	0.143	0.103				-105			-105
-106	0.174	0.103		-106		-106			-106
-107	0.206	0.103		-107		-107			-107
-108	0.237	0.103		-108		-108			-108
-109	0.299	0.103		-109		-109			-109
-110	0.362	0.103	AN123963	-110	-110	-110	-110	-110	-110
-111	0.424	0.103	AN123964	-111	-111	-111	-111	-111	-111
-112	0.487	0.103	AN123965	-112	-112	-112	-112	-112	-112
-113	0.549	0.103	AN123966	-113	-113	-113	-113	-113	-113
-114	0.612	0.103	AN123967	-114	-114	-114	-114	-114	-114
-115	0.674	0.103	AN123968	-115	-115	-115	-115	-115	-115
-116	0.737	0.103	AN123969	-116	-116	-116	-116	-116	-116
-117	0.799	0.103		-117	-117	-117	-117	-117	-117
-118	0.862	0.103		-118	-118	-118	-118	-118	-118

Chart 4A (contd)

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-119	0.924	0.103		-119	-119	-119	-119	-119	-119
-120	0.987	0.103		-120	-120	-120	-120	-120	-120
-121	1.049	0.103		-121	-121	-121	-121	-121	-121
-122	1.112	0.103		-122	-122	-122	-122	-122	-122
-123	1.174	0.103		-123	-123	-123	-123	-123	-123
-124	1.237	0.103		-124	-124	-124	-124	-124	-124
-125	1.299	0.103		-125	-125	-125	-125	-125	-125
-126	1.362	0.103		-126	-126	-126	-126	-126	-126
-127	1.424	0.103		-127	-127	-127	-127	-127	-127
-128	1.487	0.103		-128	-128	-128	-128	-128	-128
-129	1.549	0.103		-129	-129	-129	-129	-129	-129
-130	1.612	0.103		-130	-130	-130	-130	-130	-130
-131	1.674	0.103		-131	-131	-131	-131	-131	-131
-132	1.737	0.103		-132	-132	-132	-132	-132	-132
-133	1.799	0.103		-133	-133	-133	-133	-133	-133
-134	1.862	0.103		-134	-134	-134	-134	-134	-134
-135	1.925	0.103		-135	-135	-135	-135	-135	-135
-136	1.987	0.103		-136	-136	-136	-136	-136	-136
-137	2.050	0.103		-137	-137	-137	-137	-137	-137
-138	2.112	0.103		-138	-138	-138	-138	-138	-138
-139	2.175	0.103		-139	-139	-139	-139	-139	-139
-140	2.237	0.103		-140	-140	-140	-140	-140	-140
-141	2.300	0.103		-141	-141	-141	-141	-141	-141
-142	2.362	0.103		-142	-142	-142	-142	-142	-142
-143	2.425	0.103		-143	-143	-143	-143	-143	-143
-144	2.487	0.103		-144	-144	-144	-144	-144	-144
-145	2.550	0.103		-145	-145	-145	-145	-145	-145
-146	2.612	0.103		-146	-146	-146	-146	-146	-146
-147	2.675	0.103		-147	-147	-147	-147	-147	-147
-148	2.737	0.103		-148	-148	-148	-148	-148	-148
-149	2.800	0.103		-149	-149	-149	-149	-149	-149
-150	2.862	0.103		-150	-150	-150	-150	-150	-150
-151	2.987	0.103		-151	-151	-151	-151	-151	-151
-152	3.237	0.103		-152	-152	-152	-152	-152	-152
-153	3.487	0.103		-153	-153	-153	-153	-153	-153
-154	3.737	0.103		-154	-154	-154	-154	-154	-154
-155	3.987	0.103		-155	-155	-155	-155	-155	-155
-156	4.237	0.103		-156	-156	-156	-156	-156	-156
-157	4.487	0.103		-157	-157	-157	-157	-157	-157
-158	4.737	0.103		-158	-158	-158	-158	-158	-158
-159	4.987	0.103		-159	-159	-159	-159	-159	-159
-160	5.237	0.103		-160	-160	-160	-160	-160	-160
-161	5.487	0.103		-161	-161	-161	-161	-161	-161
-162	5.737	0.103		-162	-162	-162	-162	-162	-162
-163	5.987	0.103		-163	-163	-163	-163	-163	-163
-164	6.237	0.103		-164	-164	-164	-164	-164	-164
-165	6.487	0.103		-165	-165	-165	-165	-165	-165
-166	6.737	0.103		-166	-166	-166	-166	-166	-166
-167	6.987	0.103		-167	-167	-167	-167	-167	-167
-168	7.237	0.103		-168	-168	-168	-168	-168	-168
-169	7.487	0.103		-169	-169	-169	-169	-169	-169
-170	7.737	0.103		-170	-170	-170	-170	-170	-170
-171	7.987	0.103		-171	-171	-171	-171	-171	-171
-172	8.237	0.103		-172	-172	-172	-172	-172	-172
-173	8.487	0.103		-173	-173	-173	-173	-173	-173
-174	8.737	0.103		-174	-174	-174	-174	-174	-174
-175	8.987	0.103		-175	-175	-175	-175	-175	-175
-176	9.237	0.103		-176	-176	-176	-176	-176	-176
-177	9.487	0.103		-177	-177	-177	-177	-177	-177
-178	9.737	0.103		-178	-178	-178	-178	-178	-178
-179 through -200	O-ring sizes not assigned.								
-201	0.171	0.139				-201			-201
-202	0.234	0.139				-202			-202
-203	0.296	0.139				-203			-203
-204	0.359	0.139				-204			-204
-205	0.421	0.139				-205			-205
-206	0.484	0.139				-206			-206
-207	0.546	0.139				-207			-207

Chart 4A (contd)

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-208	0.609	0.139				-208			-208
-209	0.671	0.139				-209			-209
-210	0.734	0.139	AN123970	-210	-210	-210	-210	-210	-210
-211	0.796	0.139	AN123971	-211	-211	-211	-211	-211	-211
-212	0.859	0.139	AN123972	-212	-212	-212	-212	-212	-212
-213	0.921	0.139	AN123973	-213	-213	-213	-213	-213	-213
-214	0.984	0.139	AN123974	-214	-214	-214	-214	-214	-214
-215	1.046	0.139	AN123975	-215	-215	-215	-215	-215	-215
-216	1.109	0.139	AN123976	-216	-216	-216	-216	-216	-216
-217	1.171	0.139	AN123977	-217	-217	-217	-217	-217	-217
-218	1.234	0.139	AN123978	-218	-218	-218	-218	-218	-218
-219	1.296	0.139	AN123979	-219	-219	-219	-219	-219	-219
-220	1.359	0.139	AN123980	-220	-220	-220	-220	-220	-220
-221	1.421	0.139	AN123981	-221	-221	-221	-221	-221	-221
-222	1.484	0.139	AN123982	-222	-222	-222	-222	-222	-222
-223	1.609	0.139	AN123983	-223	-223	-223	-223	-223	-223
-224	1.734	0.139	AN123984	-224	-224	-224	-224	-224	-224
-225	1.859	0.139	AN123985	-225	-225	-225	-225	-225	-225
-226	1.984	0.139	AN123986	-226	-226	-226	-226	-226	-226
-227	2.109	0.139	AN123987	-227	-227	-227	-227	-227	-227
-228	2.234	0.139	AN123988	-228	-228	-228	-228	-228	-228
-229	2.359	0.139	AN123989	-229	-229	-229	-229	-229	-229
-230	2.484	0.139	AN123990	-230	-230	-230	-230	-230	-230
-231	2.609	0.139	AN123991	-231	-231	-231	-231	-231	-231
-232	2.734	0.139	AN123992	-232	-232	-232	-232	-232	-232
-233	2.859	0.139	AN123993	-233	-233	-233	-233	-233	-233
-234	2.984	0.139	AN123994	-234	-234	-234	-234	-234	-234
-235	3.109	0.139	AN123995	-235	-235	-235	-235	-235	-235
-236	3.234	0.139	AN123996	-236	-236	-236	-236	-236	-236
-237	3.359	0.139	AN123997	-237	-237	-237	-237	-237	-237
-238	3.484	0.139	AN123998	-238	-238	-238	-238	-238	-238
-239	3.609	0.139	AN123999	-239	-239	-239	-239	-239	-239
-240	3.734	0.139	AN124000	-240	-240	-240	-240	-240	-240
-241	3.859	0.139	AN124001	-241	-241	-241	-241	-241	-241
-242	3.984	0.139	AN124002	-242	-242	-242	-242	-242	-242
-243	4.109	0.139	AN124003	-243	-243	-243	-243	-243	-243
-244	4.234	0.139	AN124004	-244	-244	-244	-244	-244	-244
-245	4.359	0.139	AN124005	-245	-245	-245	-245	-245	-245
-246	4.484	0.139	AN124006	-246	-246	-246	-246	-246	-246
-247	4.609	0.139	AN124007	-247	-247	-247	-247	-247	-247
-248	4.734	0.139	AN124008	-248	-248	-248	-248	-248	-248
-249	4.859	0.139	AN124009	-249	-249	-249	-249	-249	-249
-250	4.984	0.139	AN124010	-250	-250	-250	-250	-250	-250
-251	5.109	0.139	AN124011	-251	-251	-251	-251	-251	-251
-252	5.234	0.139	AN124012	-252	-252	-252	-252	-252	-252
-253	5.359	0.139	AN124013	-253	-253	-253	-253	-253	-253
-254	5.484	0.139	AN124014	-254	-254	-254	-254	-254	-254
-255	5.609	0.139	AN124015	-255	-255	-255	-255	-255	-255
-256	5.734	0.139	AN124016	-256	-256	-256	-256	-256	-256
-257	5.859	0.139	AN124017	-257	-257	-257	-257	-257	-257
-258	5.984	0.139	AN124018	-258	-258	-258	-258	-258	-258
-259	6.234	0.139	AN124019	-259	-259	-259	-259	-259	-259
-260	6.484	0.139	AN124020	-260	-260	-260	-260	-260	-260
-261	6.734	0.139	AN124021	-261	-261	-261	-261	-261	-261
-262	6.984	0.139	AN124022	-262	-262	-262	-262	-262	-262
-263	7.234	0.139	AN124023	-263	-263	-263	-263	-263	-263
-264	7.484	0.139	AN124024	-264	-264	-264	-264	-264	-264
-265	7.734	0.139	AN124025	-265	-265	-265	-265	-265	-265
-266	7.984	0.139	AN124026	-266	-266	-266	-266	-266	-266
-267	8.234	0.139	AN124027	-267	-267	-267	-267	-267	-267
-268	8.484	0.139	AN124028	-268	-268	-268	-268	-268	-268
-269	8.734	0.139	AN124029	-269	-269	-269	-269	-269	-269
-270	8.984	0.139	AN124030	-270	-270	-270	-270	-270	-270
-271	9.234	0.139	AN124031	-271	-271	-271	-271	-271	-271
-272	9.484	0.139	AN124032	-272	-272	-272	-272	-272	-272
-273	9.734	0.139	AN124033	-273	-273	-273	-273	-273	-273
-274	9.984	0.139	AN124034	-274	-274	-274	-274	-274	-274
-275	10.484	0.139		-275	-275	-275	-275	-275	-275

Chart 4A (contd)

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-276	10.984	0.139		-276	-276	-276	-276	-276	-276
-277	11.484	0.139		-277	-277	-277	-277	-277	-277
-278	11.984	0.139		-278	-278	-278	-278	-278	-278
-279	12.984	0.139		-279	-279	-279	-279	-279	-279
-280	13.984	0.139		-280	-280	-280	-280	-280	-280
-281	14.984	0.139		-281	-281	-281	-281	-281	-281
-282	15.955	0.139		-282	-282	-282			-282
-283	16.955	0.139		-283	-283	-283			-283
-284	17.955	0.139		-284	-284	-284			-284
-285 through -308	O-ring sizes not assigned.								
-309	0.412	0.210				-309			-309
-310	0.475	0.210				-310			-310
-311	0.537	0.210				-311			-311
-312	0.600	0.210				-312			-312
-313	0.662	0.210				-313			-313
-314	0.725	0.210				-314			-314
-315	0.787	0.210				-315			-315
-316	0.850	0.210				-316			-316
-317	0.912	0.210				-317			-317
-318	0.975	0.210				-318			-318
-319	1.037	0.210				-319			-319
-320	1.100	0.210				-320			-320
-321	1.162	0.210				-321			-321
-322	1.225	0.210				-322			-322
-323	1.289	0.210				-323			-323
-324	1.350	0.210				-324			-324
-325	1.475	0.210		-325	-325	-325	-325	-325	-325
-326	1.600	0.210		-326	-326	-326	-326	-326	-326
-327	1.725	0.210		-327	-327	-327	-327	-327	-327
-328	1.850	0.210		-328	-328	-328	-328	-328	-328
-329	1.975	0.210		-329	-329	-329	-329	-329	-329
-330	2.100	0.210		-330	-330	-330	-330	-330	-330
-331	2.225	0.210		-331	-331	-331	-331	-331	-331
-332	2.350	0.210		-332	-332	-332	-332	-332	-332
-333	2.475	0.210		-333	-333	-333	-333	-333	-333
-334	2.600	0.210		-334	-334	-334	-334	-334	-334
-335	2.725	0.210		-335	-335	-335	-335	-335	-335
-336	2.850	0.210		-336	-336	-336	-336	-336	-336
-337	2.975	0.210		-337	-337	-337	-337	-337	-337
-338	3.100	0.210		-338	-338	-338	-338	-338	-338
-339	3.225	0.210		-339	-339	-339	-339	-339	-339
-340	3.350	0.210		-340	-340	-340	-340	-340	-340
-341	3.475	0.210		-341	-341	-341	-341	-341	-341
-342	3.600	0.210		-342	-342	-342	-342	-342	-342
-343	3.725	0.210		-343	-343	-343	-343	-343	-343
-344	3.850	0.210		-344	-344	-344	-344	-344	-344
-345	3.975	0.210		-345	-345	-345	-345	-345	-345
-346	4.100	0.210		-346	-346	-346	-346	-346	-346
-347	4.225	0.210		-347	-347	-347	-347	-347	-347
-348	4.350	0.210		-348	-348	-348	-348	-348	-348
-349	4.475	0.210		-349	-349	-349	-349	-349	-349
-350	4.600	0.210		-350	-350	-350			-350
-351	4.725	0.210		-351	-351	-351			-351
-352	4.850	0.210		-352	-352	-352			-352
-353	4.975	0.210		-353	-353	-353			-353
-354	5.100	0.210		-354	-354	-354			-354
-355	5.225	0.210		-355	-355	-355			-355
-356	5.350	0.210		-356	-356	-356			-356
-357	5.475	0.210		-357	-357	-357			-357
-358	5.600	0.210		-358	-358	-358			-358
-359	5.725	0.210		-359	-359	-359			-359
-360	5.850	0.210		-360	-360	-360			-360
-361	5.975	0.210		-361	-361	-361			-361
-362	6.225	0.210		-362	-362	-362			-362
-363	6.475	0.210		-363	-363	-363			-363
-364	6.725	0.210		-364	-364	-364			-364
-365	6.975	0.210		-365	-365	-365			-365
-366	7.225	0.210		-366	-366	-366			-366

Chart 4A (contd)

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-367	7.475	0.210		-367	-367	-367			-367
-368	7.725	0.210		-368	-368	-368			-368
-369	7.975	0.210		-369	-369	-369			-369
-370	8.225	0.210		-370	-370	-370			-370
-371	8.475	0.210		-371	-371	-371			-371
-372	8.725	0.210		-372	-372	-372			-372
-373	8.975	0.210		-373	-373	-373			-373
-374	9.225	0.210		-374	-374	-374			-374
-375	9.475	0.210		-375	-375	-375			-375
-376	9.725	0.210		-376	-376	-376			-376
-377	9.975	0.210		-377	-377	-377			-377
-378	10.475	0.210		-378	-378	-378			-378
-379	10.975	0.210		-379	-379	-379			-379
-380	11.475	0.210		-380	-380	-380			-380
-381	11.975	0.210		-381	-381	-381			-381
-382	12.975	0.210		-382	-382	-382			-382
-383	13.975	0.210		-383	-383	-383			-383
-384	14.975	0.210		-384	-384	-384			-384
-385	15.955	0.210		-385	-385	-385			-385
-386	16.955	0.210		-386	-386	-386			-386
-387	17.955	0.210		-387	-387	-387			-387
-388	18.955	0.210		-388	-388	-388			-388
-389	19.955	0.210		-389	-389	-389			-389
-390	20.955	0.210		-390	-390	-390			-390
-391	21.955	0.210		-391	-391	-391			-391
-392	22.940	0.210		-392	-392	-392			-392
-393	23.940	0.210		-393	-393	-393			-393
-394	24.940	0.210		-394	-394	-394			-394
-395	25.940	0.210		-395	-395	-395			-395
-396 through -424	O-ring sizes not assigned.								
-425	4.475	0.275		-425	-425	-425	-425	-425	-425
-426	4.600	0.275		-426	-426	-426	-426	-426	-426
-427	4.725	0.275		-427	-427	-427	-427	-427	-427
-428	4.850	0.275		-428	-428	-428	-428	-428	-428
-429	4.975	0.275		-429	-429	-429	-429	-429	-429
-430	5.100	0.275		-430	-430	-430	-430	-430	-430
-431	5.225	0.275		-431	-431	-431	-431	-431	-431
-432	5.350	0.275		-432	-432	-432	-432	-432	-432
-433	5.475	0.275		-433	-433	-433	-433	-433	-433
-434	5.600	0.275		-434	-434	-434	-434	-434	-434
-435	5.725	0.275		-435	-435	-435	-435	-435	-435
-436	5.850	0.275		-436	-436	-436	-436	-436	-436
-437	5.975	0.275		-437	-437	-437	-437	-437	-437
-438	6.225	0.275		-438	-438	-438	-438	-438	-438
-439	6.475	0.275		-439	-439	-439	-439	-439	-439
-440	6.725	0.275		-440	-440	-440	-440	-440	-440
-441	6.975	0.275		-441	-441	-441	-441	-441	-441
-442	7.225	0.275		-442	-442	-442	-442	-442	-442
-443	7.475	0.275		-443	-443	-443	-443	-443	-443
-444	7.725	0.275		-444	-444	-444	-444	-444	-444
-445	7.975	0.275		-445	-445	-445	-445	-445	-445
-446	8.475	0.275		-446	-446	-446	-446	-446	-446
-447	8.975	0.275		-447	-447	-447	-447	-447	-447
-448	9.475	0.275		-448	-448	-448	-448	-448	-448
-449	9.975	0.275		-449	-449	-449	-449	-449	-449
-450	10.475	0.275		-450	-450	-450	-450	-450	-450
-451	10.975	0.275		-451	-451	-451	-451	-451	-451
-452	11.475	0.275		-452	-452	-452	-452	-452	-452
-453	11.975	0.275		-453	-453	-453	-453	-453	-453
-454	12.475	0.275		-454	-454	-454	-454	-454	-454
-455	12.975	0.275		-455	-455	-455	-455	-455	-455
-456	13.475	0.275		-456	-456	-456	-456	-456	-456
-457	13.975	0.275		-457	-457	-457	-457	-457	-457
-458	14.475	0.275		-458	-458	-458	-458	-458	-458
-459	14.975	0.275		-459	-459	-459	-459	-459	-459
-460	15.475	0.275		-460	-460	-460	-460	-460	-460
-461	15.955	0.275		-461	-461	-461			-461
-462	16.455	0.275		-462	-462	-462			-462

Chart 4A (contd)

GLAND O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions ID	W	AN123956 to AN124034	MS9021	MS29513	M83248/1	NAS1593	NAS1594	M25988/1
-463	16.955	0.275		-463	-463	-463			-463
-464	17.455	0.275		-464	-464	-464			-464
-465	17.955	0.275		-465	-465	-465			-465
-466	18.455	0.275		-466	-466	-466			-466
-467	18.955	0.275		-467	-467	-467			-467
-468	19.455	0.275		-468	-468	-468			-468
-469	19.955	0.275		-469	-469	-469			-469
-470	20.955	0.275		-470	-470	-470			-470
-471	21.955	0.275		-471	-471	-471			-471
-472	22.940	0.275		-472	-472	-472			-472
-473	23.940	0.275		-473	-473	-473			-473
-474	24.940	0.275		-474	-474	-474			-474
-475	25.940	0.275		-475	-475	-475			-475

Chart 4B

BOSS O-RINGS for Use in COMMON JET FUELS

AS 568A Standard Dash No.	Nominal Dimensions TUBE OD	ID	W	MS9020	MS29512	NAS1595	NAS1596	M83248/2
-901	3/32	0.185	0.056	-01	-01			-901
-902	1/8	0.239	0.064	-02	-02	-2	-2	-902
-903	3/16	0.301	0.064	-03	-03	-3	-3	-903
-904	1/4	0.351	0.072	-04	-04	-4	-4	-904
-905	5/16	0.414	0.072	-05	-05	-5	-5	-905
-906	3/8	0.468	0.078	-06	-06	-6	-6	-906
-907	7/16	0.530	0.082	-07	-07			-907
-908	1/2	0.644	0.087	-08	-08	-8	-8	-908
-909	9/16	0.706	0.097	-09	-09			-909
-910	5/8	0.755	0.097	-10	-10	-10	-10	-910
-911	11/16	0.863	0.116	-11	-11			-911
-912	3/4	0.924	0.116	-12	-12	-12	-12	-912
-913	13/16	0.986	0.116	-13	-13			-913
-914	7/8	1.047	0.116	-14	-14			-914
-916	1	1.171	0.116	-16	-16	-16	-16	-916
-918	1-1/8	1.355	0.116	-18	-18			-918
-920	1-1/4	1.475	0.118	-20	-20	-20	-20	-920
-924	1-1/2	1.720	0.118	-24	-24	-24	-24	-924
-928	1-3/4	2.090	0.118	-28	-28	-28	-28	-928
-932	2	2.337	0.118	-32	-32	-32	-32	-932

Preformed Packings
A GLOSSARY OF USEFUL TERMS

BACKUP RING - A spiral-cut or continuous ring of Teflon-type material placed in the gland between the O-ring and groove side walls to prevent seal extrusion.

BOSS O-RING - A preformed packing used to seal fluid connections conforming to MS33649 or equivalent.

DYNAMIC SEAL - A type of seal where there is relative motion between some part of the packing and the sealing surface, such as a piston and shaft seal.

EXTRUSION - The distortion or flow, under pressure, of a portion of a seal into the clearance between mating metal parts.

GLAND O-RING - A preformed packing used to seal grooved cutouts conforming to MIL-G-5514 or the equivalent.

O-RING - A torus-shaped preformed packing, made of synthetic rubber, used to seal fluid connections.

PACKING - A generic term used to describe a hydraulic seal that prevents leakage between two surfaces.

STATIC SEAL - A type of seal where there is no relative motion between the O-ring and sealing surface. In some cases, limited freedom may be provided to permit the packing to change its shape within the gland when under pressure.

Chart 5A

GLAND O-RINGS for Use in BREATHING OXYGEN

AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068		AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068
-001	0.029	0.040			-116	0.737	0.103	-116
-002	0.042	0.050			-117	0.799	0.103	-117
-003	0.056	0.060			-118	0.862	0.103	-118
-004	0.070	0.070	-004		-119	0.924	0.103	-119
-005	0.101	0.070	-005		-120	0.987	0.103	-120
-006	0.114	0.070	-006		-121	1.049	0.103	-121
-007	0.145	0.070	-007		-122	1.112	0.103	-122
-008	0.176	0.070	-008		-123	1.174	0.103	-123
-009	0.208	0.070	-009		-124	1.237	0.103	-124
-010	0.239	0.070	-010		-125	1.299	0.103	-125
-011	0.301	0.070	-011		-126	1.362	0.103	-126
-012	0.364	0.070	-012		-127	1.424	0.103	-127
-013	0.426	0.070	-013		-128	1.487	0.103	-128
-014	0.489	0.070	-014		-129	1.549	0.103	-129
-015	0.551	0.070	-015		-130	1.612	0.103	-130
-016	0.614	0.070	-016		-131	1.674	0.103	-131
-017	0.676	0.070	-017		-132	1.737	0.103	-132
-018	0.739	0.070	-018		-133	1.799	0.103	-133
-019	0.801	0.070	-019		-134	1.862	0.103	-134
-020	0.864	0.070	-020		-135	1.925	0.103	-135
-021	0.926	0.070	-021		-136	1.987	0.103	-136
-022	0.989	0.070	-022		-137	2.050	0.103	-137
-023	1.051	0.070	-023		-138	2.112	0.103	-138
-024	1.114	0.070	-024		-139	2.175	0.103	-139
-025	1.176	0.070	-025		-140	2.237	0.103	-140
-026	1.239	0.070	-026		-141	2.300	0.103	-141
-027	1.301	0.070	-027		-142	2.362	0.103	-142
-028	1.364	0.070	-028		-143	2.425	0.103	-143
-029	1.489	0.070	-029		-144	2.487	0.103	-144
-030	1.614	0.070	-030		-145	2.550	0.103	-145
-031	1.739	0.070	-031		-146	2.612	0.103	-146
-032	1.864	0.070	-032		-147	2.675	0.103	-147
-033	1.989	0.070	-033		-148	2.737	0.103	-148
-034	2.114	0.070	-034		-149	2.800	0.103	-149
-035	2.239	0.070	-035		-150	2.862	0.103	-150
-036	2.364	0.070	-036		-151	2.987	0.103	-151
-037	2.489	0.070	-037		-152	3.237	0.103	-152
-038	2.614	0.070	-038		-153	3.487	0.103	-153
-039	2.739	0.070	-039		-154	3.737	0.103	-154
-040	2.864	0.070	-040		-155	3.987	0.103	-155
-041	2.989	0.070	-041		-156	4.237	0.103	-156
-042	3.239	0.070	-042		-157	4.487	0.103	-157
-043	3.489	0.070	-043		-158	4.737	0.103	-158
-044	3.739	0.070	-044		-159	4.987	0.103	-159
-045	3.989	0.070	-045		-160	5.237	0.103	-160
-046	4.239	0.070			-161	5.487	0.103	-161
-047	4.489	0.070			-162	5.737	0.103	-162
-048	4.739	0.070			-163	5.987	0.103	-163
-049	4.989	0.070			-164	6.237	0.103	
-050	5.239	0.070			-165	6.487	0.103	
-051 through -101	O-ring sizes not assigned.				-166	6.737	0.103	
-102	0.049	0.103			-167	6.987	0.103	
-103	0.081	0.103			-168	7.237	0.103	
-104	0.112	0.103			-169	7.487	0.103	
-105	0.143	0.103			-170	7.737	0.103	
-106	0.174	0.103			-171	7.987	0.103	
-107	0.206	0.103			-172	8.237	0.103	
-108	0.237	0.103			-173	8.487	0.103	
-109	0.299	0.103			-174	8.737	0.103	
-110	0.362	0.103	-110		-175	8.987	0.103	
-111	0.424	0.103	-111		-176	9.237	0.103	
-112	0.487	0.103	-112		-177	9.487	0.103	
-113	0.549	0.103	-113		-178	9.737	0.103	
-114	0.612	0.103	-114		-179 through -200	O-ring sizes not assigned.		
-115	0.674	0.103	-115		-201	0.171	0.139	

Chart 5A (contd)

GLAND O-RINGS for Use in BREATHING OXYGEN

AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068	AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068
-202	0.234	0.139		-267	8.234	0.139	-267
-203	0.296	0.139		-268	8.484	0.139	-268
-204	0.359	0.139		-269	8.734	0.139	-269
-205	0.421	0.139		-270	8.984	0.139	-270
-206	0.484	0.139		-271	9.234	0.139	-271
-207	0.546	0.139		-272	9.484	0.139	-272
-208	0.609	0.139		-273	9.734	0.139	-273
-209	0.671	0.139		-274	9.984	0.139	-274
-210	0.734	0.139	-210	-275	10.484	0.139	-275
-211	0.796	0.139	-211	-276	10.984	0.139	-276
-212	0.859	0.139	-212	-277	11.484	0.139	-277
-213	0.921	0.139	-213	-278	11.984	0.139	-278
-214	0.984	0.139	-214	-279	12.984	0.139	-279
-215	1.046	0.139	-215	-280	13.984	0.139	-280
-216	1.109	0.139	-216	-281	14.984	0.139	-281
-217	1.171	0.139	-217	-282	15.955	0.139	
-218	1.234	0.139	-218	-283	16.955	0.139	
-219	1.296	0.139	-219	-284	17.955	0.139	
-220	1.359	0.139	-220	-285 through -308	O-ring sizes not assigned.		
-221	1.421	0.139	-221	-309	0.412	0.210	
-222	1.484	0.139	-222	-310	0.475	0.210	
-223	1.609	0.139	-223	-311	0.537	0.210	
-224	1.734	0.139	-224	-312	0.600	0.210	
-225	1.859	0.139	-225	-313	0.662	0.210	
-226	1.984	0.139	-226	-314	0.725	0.210	
-227	2.109	0.139	-227	-315	0.787	0.210	
-228	2.234	0.139	-228	-316	0.850	0.210	
-229	2.359	0.139	-229	-317	0.912	0.210	
-230	2.484	0.139	-230	-318	0.975	0.210	
-231	2.609	0.139	-231	-319	1.037	0.210	
-232	2.734	0.139	-232	-320	1.100	0.210	
-233	2.859	0.139	-233	-321	1.162	0.210	
-234	2.984	0.139	-234	-322	1.225	0.210	
-235	3.109	0.139	-235	-323	1.289	0.210	
-236	3.234	0.139	-236	-324	1.350	0.210	
-237	3.359	0.139	-237	-325	1.475	0.210	-325
-238	3.484	0.139	-238	-326	1.600	0.210	-326
-239	3.609	0.139	-239	-327	1.725	0.210	-327
-240	3.734	0.139	-240	-328	1.850	0.210	-328
-241	3.859	0.139	-241	-329	1.975	0.210	-329
-242	3.984	0.139	-242	-330	2.100	0.210	-330
-243	4.109	0.139	-243	-331	2.225	0.210	-331
-244	4.234	0.139	-244	-332	2.350	0.210	-332
-245	4.359	0.139	-245	-333	2.475	0.210	-333
-246	4.484	0.139	-246	-334	2.600	0.210	-334
-247	4.609	0.139	-247	-335	2.725	0.210	-335
-248	4.734	0.139	-248	-336	2.850	0.210	-336
-249	4.859	0.139	-249	-337	2.975	0.210	-337
-250	4.984	0.139	-250	-338	3.100	0.210	-338
-251	5.109	0.139	-251	-339	3.225	0.210	-339
-252	5.234	0.139	-252	-340	3.350	0.210	-340
-253	5.359	0.139	-253	-341	3.475	0.210	-341
-254	5.484	0.139	-254	-342	3.600	0.210	-342
-255	5.609	0.139	-255	-343	3.725	0.210	-343
-256	5.734	0.139	-256	-344	3.850	0.210	-344
-257	5.859	0.139	-257	-345	3.975	0.210	-345
-258	5.984	0.139	-258	-346	4.100	0.210	-346
-259	6.234	0.139	-259	-347	4.225	0.210	-347
-260	6.484	0.139	-260	-348	4.350	0.210	-348
-261	6.734	0.139	-261	-349	4.475	0.210	-349
-262	6.984	0.139	-262	-350	4.600	0.210	
-263	7.234	0.139	-263	-351	4.725	0.210	
-264	7.484	0.139	-264	-352	4.850	0.210	
-265	7.734	0.139	-265	-353	4.975	0.210	
-266	7.984	0.139	-266	-354	5.100	0.210	

Chart 5A (contd)

GLAND O-RINGS for Use in BREATHING OXYGEN

AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068
-355	5.225	0.210	
-356	5.350	0.210	
-357	5.475	0.210	
-358	5.600	0.210	
-359	5.725	0.210	
-360	5.850	0.210	
-361	5.975	0.210	
-362	6.225	0.210	
-363	6.475	0.210	
-364	6.725	0.210	
-365	6.975	0.210	
-366	7.225	0.210	
-367	7.475	0.210	
-368	7.725	0.210	
-369	7.975	0.210	
-370	8.225	0.210	
-371	8.475	0.210	
-372	8.725	0.210	
-373	8.975	0.210	
-374	9.225	0.210	
-375	9.475	0.210	
-376	9.725	0.210	
-377	9.975	0.210	
-378	10.475	0.210	
-379	10.975	0.210	
-380	11.475	0.210	
-381	11.975	0.210	
-382	12.975	0.210	
-383	13.975	0.210	
-384	14.975	0.210	
-385	15.955	0.210	
-386	16.955	0.210	
-387	17.955	0.210	
-388	18.955	0.210	
-389	19.955	0.210	
-390	20.955	0.210	
-391	21.955	0.210	
-392	22.940	0.210	
-393	23.940	0.210	
-394	24.940	0.210	
-395	25.940	0.210	
-396 through -424	O-ring sizes not assigned.		
-425	4.475	0.275	-425
-426	4.600	0.275	-426
-427	4.725	0.275	-427
-428	4.850	0.275	-428
-429	4.975	0.275	-429
-430	5.100	0.275	-430
-431	5.225	0.275	-431
-432	5.350	0.275	-432
-433	5.475	0.275	-433
-434	5.600	0.275	-434
-435	5.725	0.275	-435
-436	5.850	0.275	-436
-437	5.975	0.275	-437
-438	6.225	0.275	-438
-439	6.475	0.275	-439
-440	6.725	0.275	-440
-441	6.975	0.275	-441
-442	7.225	0.275	-442
-443	7.475	0.275	-443
-444	7.725	0.275	-444
-445	7.975	0.275	-445
-446	8.475	0.275	-446
-447	8.975	0.275	-447

AS 568A Standard Dash No.	Nominal Dimensions ID	W	MS9068
-448	9.475	0.275	-448
-449	9.975	0.275	-449
-450	10.475	0.275	-450
-451	10.975	0.275	-451
-452	11.475	0.275	-452
-453	11.975	0.275	-453
-454	12.475	0.275	-454
-455	12.975	0.275	-455
-456	13.475	0.275	-456
-457	13.975	0.275	-457
-458	14.475	0.275	-458
-459	14.975	0.275	-459
-460	15.475	0.275	-460
-461	15.955	0.275	-461
-462	16.455	0.275	-462
-463	16.955	0.275	-463
-464	17.455	0.275	-464
-465	17.955	0.275	-465
-466	18.455	0.275	-466
-467	18.955	0.275	-467
-468	19.455	0.275	-468
-469	19.955	0.275	
-470	20.955	0.275	
-471	21.955	0.275	
-472	22.940	0.275	
-473	23.940	0.275	
-474	24.940	0.275	
-475	25.940	0.275	

Chart 5B BOSS O-RINGS for Use in

AS 568A Standard Dash No.	Nominal Dimensions TUBE OD	ID	W	906	MS9385
-901	3/32	0.185	0.056		-01
-902	1/8	0.239	0.064	-2	-02
-903	3/16	0.301	0.064	-3	-03
-904	1/4	0.351	0.072	-4	-04
-905	5/16	0.414	0.072	-5	-05
-906	3/8	0.468	0.078	-6	-06
-907	7/16	0.530	0.082		-07
-908	1/2	0.644	0.087	-8	-08
-909	9/16	0.706	0.097		-09
-910	5/8	0.755	0.097	-10	-10
-911	11/16	0.863	0.116		-11
-912	3/4	0.924	0.116	-12	-12
-913	13/16	0.986	0.116		-13
-914	7/8	1.047	0.116		-14
-916	1	1.171	0.116	-16	-16
-918	1-1/8	1.355	0.116		-18
-920	1-1/4	1.475	0.118	-20	-20
-924	1-1/2	1.720	0.118	-24	-24
-928	1-3/4	2.090	0.118	-28	-28
-932	2	2.337	0.118	-32	-32

O-Rings Revisited

One of the most confusing and aggravating jobs faced by most mechanics is the finding, identifying, removing, and replacing of preformed packings, most often referred to as simply "O-rings." This issue is for those mechanics—to assist in cross-referencing part numbers, in determining dimensions, and in proper care and handling from storage to installation of preformed packings.

So reads the first paragraph of the main article in *Service News*, Vol. 3, No.1, dated January-March 1976. It was our first special O-ring issue, and it turned out to be the most frequently requested issue the magazine had published up to that time.

An update, significantly enlarged and revised, was issued in Vol. 11, No. 3, the July-September issue in 1984. Referring to the original O-ring feature, the introduction to the update comments: *The article proved to be so popular that our supplies of the issue that contained it were soon exhausted. Volume 3, Number 1 of* Service News *has been completely out of stock for several years, and we have had to disappoint the many readers who have contacted us and asked for additional copies. With this issue, we hope again to be able to satisfy the need for a reliable and easy-to-use source of data on O-rings.*

The new issue helped meet that need, but not for long. It attracted so much interest that the new issue, too, was soon out of stock, even though an extra thousand copies had been printed. In the April-June *Service News* issue of 1990, (Volume 17, Number 2) we offered another O-ring edition, again fully updated and revised, and this time we printed *two* thousand extra copies. That proved to be a more realistic number, and since then we have been able to offer copies to our readers who request them. Until now, that is.

Fortunately, when both the need to modernize our published O-ring data and dwindling stocks of the previous O-ring issue reminded us that the time for yet another revision had arrived, Jim Roberts of our Engineering Standards and Specifications Group was ready. Jim's update, which is published in this issue, represents the largest and most thoroughgoing presentation of O-ring information yet offered in *Service News* magazine. We are most grateful for his careful and comprehensive work. This is also the appropriate time to salute the earlier contributions of Ed Akers, Anne Anderson, Jim Buttram, Dan Jolley, and Jim Loftin, whose dedicated efforts on our previous O-ring issues provided both the models and the tradition of excellence upon which the present edition could be based.

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