



AEROSPACE STANDARD

AS 568

Society of Automotive Engineers, Inc.
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Revised

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AEROSPACE SIZE STANDARD FOR O-RINGS

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1. PURPOSE

- 1.1 The purpose of this Aerospace Standard (AS) is to set forth a standardized dash numbering system for O-Rings.
- 1.2 It is intended to be used in the preparation of Company, Military, or other Standard Drawings for O-Rings. Each dash number, which should be appended to an appropriate Drawing or Standard number, identifies one nominal size O-Ring only.
- 1.3 No attempt is made in this AS to indicate which of the O-Ring sizes listed under this system should be included in any particular Standard Drawing. Its only purpose is to standardize O-Ring sizes and dimensional tolerances and the means of identifying them dimensionally.

2. GENERAL NOTES

- 2.1 This Aerospace Standard supersedes and cancels ARP 568B.
 - 2.1.1 This AS is identical in content to ARP 568B, which differed from prior issues of ARP 568 in Table format.

Both Class I and Class II tolerances appear in the same Table.

Metric equivalents in International System (SI) units are given for all dimensions.
 - 2.1.2 Calculation of the metric equivalents was done in accord with the rules appearing in SAE J916, rounding off tolerances as recommended in Paragraph 6.2.1, Method A, therein.
 - 2.1.3 Additional sizes have been assigned and included in the Table as follows:

-102 thru -109
-201 thru -209
-309 thru -324
- 2.2 The fabrication shrinkage characteristics of all O-Ring materials are not identical but will allow size standardization according to two sets of dimensional tolerances, tabulated here as Class I and Class II. These Classes differ only by the tolerances specified for the O-Ring ID (inside diameter).
 - 2.2.1 Class I tolerances are intended for O-Rings manufactured from materials that have low mold shrinkage characteristics, such as Nitrile (NBR) rubber or parts machined from materials such as polytetrafluoroethylene. The data for Class I O-Rings are identical to that in the "A" revision to ARP 568, except that the minimum ID for sizes -388 thru -391 has been increased by .005".
 - 2.2.2 Class II tolerances are intended for O-Rings manufactured from materials that have high mold shrinkage characteristics, such as fluoroelastomer (FPM) compounds.
 - 2.2.3 O-Ring sizes of the same dash numbers from Class I and Class II are interchangeable when used in properly designed glands such as MIL-P-5514.

2.3 It should be noted that the Table is divided into two distinct sections as follows:

- 2.3.1 The main section, wherein the dash numbers are divided into groups of one hundred, and within each group are sequential and nonsignificant. Each hundred group, however, identifies the cross section size of the O-Rings within the group. For example, all .070 and smaller O-Ring cross sections fall into the group of -001 thru -099. The .103 cross section rings fall into the group of -100 thru -199, and so on.
- 2.3.2 The gasket section, shown on the last page of the Table, using the 900 series dash numbers, lists all of the presently standardized straight thread tube fitting boss gaskets. This series has traditionally utilized the significant dash numbering system, wherein the dash number designates the tube size in 16th's of an inch. This practice is also followed here, with the exception of the -901, which is intended for a .0938 inch nominal OD (outside diameter) tube, the .0625 inch OD tube not being in common aircraft use.
- 2.4 In the interest of standardization, it is requested that companies or agencies do not use the dash numbers in the following Table to which sizes have not been assigned. Sizes not assigned are indicated by an asterisk (*). Anyone feeling that any special size not now shown is widely enough used to justify standardization should direct such a request to the Elastic Seal Committee, SAE G-4 for coordination.

3. SKETCH

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Table Begins

on the

Following Page

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UNIFORM DASH NUMBERING SYSTEM FOR U-RINGS

(CONTINUED)

DASH NUMBER	CLASS I		CLASS II		I.D. INCHES		I.C. MILLIMETERS		INCHES		MILLIMETERS		VOLUME (REF.)	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	CUBIC INCHES	CUBIC CENTIMETERS
-171	1.957	1.017	202.11	203.63	7.942	8.032	201.73	204.01	0.100	0.106	2.540	2.692	0.2118	3.471
-172	8.207	8.207	208.46	209.98	8.187	8.247	207.9	210.5	0.100	0.106	2.540	2.692	0.2183	3.577
-173	8.457	8.517	214.81	216.33	8.440	8.537	214.3	216.8	0.100	0.106	2.540	2.692	0.2249	3.685
-174	8.707	8.767	221.16	222.68	8.587	8.787	220.6	223.2	0.100	0.106	2.540	2.692	0.2314	3.792
-175	8.957	9.017	227.51	229.03	8.937	9.037	227.0	229.5	0.100	0.106	2.540	2.692	0.2379	3.898
-176	9.207	9.267	233.86	235.38	9.182	9.282	233.2	236.0	0.100	0.106	2.540	2.692	0.2445	4.007
-177	9.457	9.517	240.21	241.73	9.432	9.532	239.6	242.4	0.100	0.106	2.540	2.692	0.2510	4.113
-178	9.707	9.767	246.56	248.08	9.682	9.782	245.9	248.7	0.100	0.106	2.540	2.692	0.2576	4.221
*179														
*200														
-201	0.166	0.176	4.22	4.47	0.165	0.177	4.19	4.50	0.135	0.143	3.429	3.632	0.0148	0.243
-202	0.225	0.239	5.82	6.07	0.227	0.241	5.77	6.12	0.135	0.143	3.429	3.632	0.0178	0.292
-203	0.291	0.304	7.39	7.65	0.289	0.303	7.34	7.70	0.135	0.143	3.429	3.632	0.0207	0.339
-204	0.354	0.364	8.95	9.25	0.352	0.366	8.94	9.30	0.135	0.143	3.429	3.632	0.0237	0.388
-205	0.416	0.426	10.57	10.82	0.414	0.428	10.52	10.87	0.135	0.143	3.429	3.632	0.0267	0.438
-206	0.475	0.485	12.17	12.42	0.477	0.491	12.12	12.47	0.135	0.143	3.429	3.632	0.0297	0.487
-207	0.541	0.551	13.74	14.00	0.539	0.553	13.69	14.05	0.135	0.143	3.429	3.632	0.0327	0.536
-208	0.604	0.614	15.34	15.60	0.600	0.618	15.24	15.70	0.135	0.143	3.429	3.632	0.0357	0.585
-209	0.666	0.676	16.92	17.17	0.662	0.680	16.81	17.27	0.135	0.143	3.429	3.632	0.0386	0.633
-210	0.728	0.740	18.49	18.80	0.724	0.744	18.39	18.90	0.135	0.143	3.429	3.632	0.0416	0.682
-211	0.790	0.802	20.07	20.37	0.786	0.806	19.96	20.47	0.135	0.143	3.429	3.632	0.0446	0.731
-212	0.852	0.865	21.67	21.97	0.849	0.869	21.56	22.07	0.135	0.143	3.429	3.632	0.0476	0.780
-213	0.915	0.927	23.24	23.55	0.911	0.931	23.14	23.65	0.135	0.143	3.429	3.632	0.0505	0.828
-214	0.978	0.990	24.84	25.15	0.974	0.994	24.74	25.25	0.135	0.143	3.429	3.632	0.0535	0.877
-215	1.040	1.052	26.42	26.72	1.036	1.056	26.31	26.82	0.135	0.143	3.429	3.632	0.0565	0.926
-216	1.102	1.115	28.02	28.32	1.097	1.121	27.86	28.47	0.135	0.143	3.429	3.632	0.0595	0.975
-217	1.165	1.177	29.59	29.90	1.159	1.183	29.44	30.05	0.135	0.143	3.429	3.632	0.0625	1.024
-218	1.228	1.240	31.15	31.50	1.222	1.246	31.04	31.65	0.135	0.143	3.429	3.632	0.0655	1.073
-219	1.290	1.302	32.77	33.07	1.284	1.308	32.61	33.22	0.135	0.143	3.429	3.632	0.0684	1.121
-220	1.353	1.365	34.37	34.67	1.347	1.371	34.21	34.82	0.135	0.143	3.429	3.632	0.0714	1.170

* U-RING SIZES NOT ASSIGNED

*179
 *200



