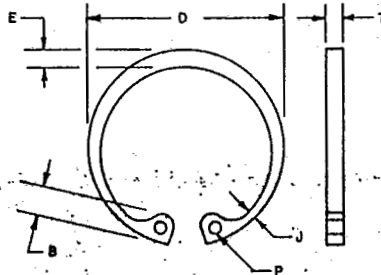


NATIONAL AEROSPACE STANDARD

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NAS 669 SUPERSEDES & IS INTERCHANGEABLE WITH NAS 50 AS SPECIFIED IN NOTE K ON SHEET 3



MATERIAL: STEEL PER FEDERAL STANDARD 66 NOS. 1066 THROUGH 1090.

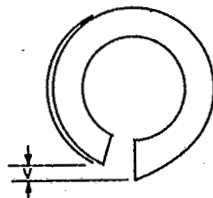
HEAT TREAT:	DASH NOS.	ROCKWELL	DASH NOS.	ROCKWELL	DASH NOS.	ROCKWELL
	25 & 31	15N 86-88	56-77	30N 67.5-72	106-300	C47-52
	37-51	30N 69.5-73	81-102	30N 66-71	306 AND LARGER	C45-50

FINISH: UNPLATED: COAT WITH CORROSION PROTECTION COMPOUND, SPEC MIL-C-16173, GRADE 2 FOR UNIT PACKAGING, OR GRADE 3 FOR BULK PACKAGING, SUFFIX "N" TO DASH NO.

PHOSPHATE COATING: SPECIFICATION MIL-P-16232, TYPE II, SUFFIX "P" TO DASH NUMBER.

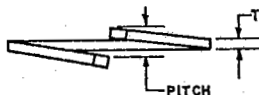
CADIUM PLATE: SPEC QQ-P-416, TYPE II, CLASS 2. NO SUFFIX ON DASH NO. THE REQUIREMENT OF MIL-S-5002, PROHIBITING ELECTRODEPOSITED CADIUM PLATE ON STEEL HAVING A HARDNESS OF ROCKWELL C-46 OR HIGHER WITHOUT MILITARY APPROVAL, DOES NOT APPLY TO RETAINING RINGS OTHERWISE CONFORMING TO THE REQUIREMENTS OF THIS STANDARD. TO ASSESS THE EFFECTIVENESS OF BAKING AFTER PLATING, EACH LOT, DEFINED AS A GROUP OF RINGS OF ONE SIZE WHICH HAS BEEN HEAT TREATED, PLATED AND BAKED AS A UNIT, SHALL BE TESTED AS FOLLOWS. CLOSE THE RINGS UNTIL THE LUGS TOUCH AND HOLD FOR 4 HOURS. ANY FAILURE SHALL BE CAUSE FOR REJECTION OF THE LOT. SAMPLING SHALL BE AS SPECIFIED IN THE TABLE BELOW.

SUSTAINED LOADING SAMPLING			
RING SIZE	ORDER SIZE (PCS)		
	1 TO 100	101 TO 300	301 AND UP
-25 TO -200	18	18	25
-206 AND LARGER	10	15	25

PART NUMBER WAS 669-306N: RING FOR 3.062 NOM. DIA. BORE, OILED OR GREASED ONLY. NO PLATING.
EXAMPLE DASH NUMBER INDICATES BORE IN HUNDREDTHS.

DASH NO.	V(g)
-25 TO -75	.020
-77 TO -150	.031
-156 TO -250	.062
-253 TO -475	.094

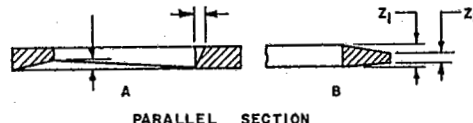
THE V DIMENSION SHALL NOT EXCEED THE VALUES IN TABLE.



PITCH SHALL NOT EXCEED 2T.



DISH SHALL NOT EXCEED .005 FOR -334 AND SMALLER AND .010 FOR SIZES GREATER THAN -334.

CONDITION A, THE MAXIMUM VARIATION SHOULD NOT EXCEED TOTAL THICKNESS TOLERANCES FOR ALL RINGS. CONDITION B, Z₁ AND Z₂ MUST BE WITHIN THE THICKNESS TOLERANCES.

ALL RINGS SHALL BE FREE FROM HANGING BURRS AND SLIVERS.

DASH NO.	(R) X MAX.
-25 TO -45	.002
-50 TO -475	.003

UNACCEPTABLE ACCEPTABLE PROVIDED THE OVERALL THICKNESS OF THE UNPLATED RING DOES NOT EXCEED T MAX SHOWN ON SHEET 2. FOR PLATED RINGS -25 THRU -102 THE OVERALL RING THICKNESS SHALL NOT EXCEED W MIN -.0002 AND FOR -106 AND LARGER THE THICKNESS SHALL NOT EXCEED T MAX +.002. AFTER COMPRESSING THE RING FIVE TIMES SO THAT ITS LUGS TOUCH BUT DO NOT OVERLAP, THE RING SHALL NOT CRACK AND THE PERMANENT SET SHALL NOT EXCEED THE VALUES TABULATED BELOW.

DASH NO.	PERMANENT SET IN % OF FREE DIA (g)	RINGS WITH NO SUPPLEMENTARY IDENTIFICATION	BY DASH NUMBER
-25 TO -45	---	---	3-1/2%
-50 TO -77	---	---	3%
-81 TO -475	1%	---	3%

ACTIVE SHEETS	
SHEET 1	REVISION 6
SHEET 2	REVISION 4
SHEET 3	REVISION 3
SHEET 4	REVISION 4
SHEET 5	REVISION 2

A RING REMOVED FROM AN INSTALLATION MAY BE REUSED IF THE FREE DIAMETER IS NOT LESS THAN THE MAXIMUM GROOVE DIAMETER. SEE SHEET 3 FOR NOTE (g).

SEE SHEET 2 FOR RING DIMENSIONS & SHEETS 3 THRU 5 FOR DESIGN & INSTALLATION DATA

⑥ INACTIVE FOR DESIGN AFTER 1 SEPTEMBER 1963, SEE DRAWING MSI6625. FOR DEFINITION OF DRAWING STATUS NOTES, SEE NAS 380.

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE

PROCUREMENT SPECIFICATION

NONE

TITLE

RING - INTERNAL RETAINER

CLASSIFICATION
STANDARD PARTNAS 66 Documents
SHEET 1 OF 5

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W., WASHINGTON 6, D. C.

DASH (K) NO.	FREE DIA		THICKNESS		RING DIMENSIONS		SECTION (g)		SECTION (g)		HOLE DIA	
	D	TOL	T	TOL	LUG DIM (g)	TOL	J	TOL	K	TOL	P	TOL
25	.280		.015		.063		.015	±.002	.025	±.002	.031	
31	.346		.015		.066		.018		.033		.031	
37	.415		.025		.082		.028		.040		.041	
43	.482		.025		.098		.029	±.003	.049	±.003	.041	
45	.498		.025		.098	±.003	.030		.050		.047	
50	.548	+.010	.035		.114		.035		.053		.047	
51	.560	-.005	.035		.114		.035		.053		.047	
56	.620		.035		.132		.035	±.004	.053	±.004	.047	
62	.698		.035		.132		.035		.060		.062	
68	.763		.035		.132		.036		.063		.062	
75	.831		.035		.142		.040		.070		.062	+.010
77	.859		.042		.146		.044		.074		.062	-.002
81	.901		.042		.155		.044		.077		.062	
86	.961		.042		.155		.045		.081		.062	
87	.971	+.015	.042	±.002	.155		.045	±.005	.084	±.005	.062	
90	1.000	-.010	.042		.155		.047		.087		.062	
93	1.081		.042		.155		.050		.091		.062	
100	1.081	+.010	.042		.155		.052		.096		.062	
102	1.106	-.005	.042		.155		.052		.098		.062	
106	1.150		.050		.180		.055		.101		.078	
112	1.217		.050		.180		.056		.105		.078	
118	1.283		.050		.180		.059		.112		.078	
125	1.351		.050		.180		.059		.112		.078	
131	1.418	+.015	.050		.180		.061	±.006	.120	±.006	.078	
137	1.486	-.010	.050		.180		.063		.124		.078	
143	1.552		.050		.180		.065		.126		.078	
145	1.572		.050		.180		.064		.128		.078	
150	1.622		.050		.180		.065		.130		.078	
156	1.734	+.025-.020	.062		.202		.070		.136		.078	
162	1.756		.062		.227		.076		.146		.078	
165	1.786	+.020	.062		.227		.072		.144		.078	
168	1.823	-.013	.062		.227		.071		.145		.078	
175	1.942	+.025-.020	.062		.234		.075		.150		.078	
181	1.958		.062		.234		.073		.147		.093	
185	1.998		.062		.234		.075		.149		.093	
187	2.025	+.020	.062		.234		.074		.150		.093	
193	2.095	-.013	.062		.234		.076		.155		.093	
200	2.160		.062		.240		.082		.165		.093	
206	2.225		.078		.250		.085		.171		.093	
212	2.295		.078		.260		.085		.173		.093	
218	2.365		.078		.264	±.005	.089		.179		.093	
225	2.435		.078		.270		.090	±.007	.180	±.007	.093	
231	2.500	+.025	.078		.270		.095		.192		.093	
237	2.567	-.015	.078		.270		.096		.195		.093	
244	2.634		.078		.280		.098		.201		.110	
250	2.700		.078		.280		.106		.204		.110	+.015
253	2.733		.078		.280		.101		.205		.110	-.002
256	2.760		.093		.290		.104		.207		.110	
262	2.840		.093		.290		.105		.210		.110	
268	2.907	+.030	.093		.300		.106		.218		.110	
275	2.975	-.020	.093		.300		.108		.225		.110	
281	3.121	+.040-.030	.093		.300		.115		.230		.110	
283	3.063	+.030-.020	.093	±.003	.300		.111		.230		.110	
287	3.191	+.040-.030	.093		.310		.120		.240		.110	
300	3.245		.093		.310		.121		.249		.110	
306	3.310	+.030	.109		.320		.121		.252		.110	
312	3.377	-.020	.109		.320		.122		.255		.110	
315	3.503	+.040-.030	.109		.320		.131		.264		.125	
325	3.509	+.030-.020	.109		.344		.128		.264		.125	
334	3.714	+.040-.030	.109		.344		.138		.276		.125	
347	3.746		.109		.340		.137		.282		.125	
350	3.780		.109		.340		.132		.285		.125	
354	3.826		.109		.350		.133		.288		.125	
356	3.850		.109		.350		.134		.291		.125	
362	3.920		.109		.350		.135	±.008	.296	±.008	.125	
375	4.060		.109		.360		.142		.309		.125	
387	4.205	+.030	.109		.370		.145		.318		.125	
393	4.283	-.020	.109		.370		.147		.323		.125	
400	4.350		.109		.370		.150		.330		.125	
412	4.496		.109		.370		.144		.321		.125	
425	4.632		.109		.370		.148		.333		.125	
433	4.719		.109		.400		.153	±.009	.339	±.009	.125	
450	4.905		.109		.400		.157		.351		.125	
462	5.041		.109		.400		.159		.360		.125	
475	5.177		.109		.410		.163		.369		.125	

SEE SHEET 3 FOR NOTES (g) AND (k).

④ INACTIVE FOR DESIGN AFTER 1 SEPTEMBER 1963, SEE DRAWING MS 16625.
FOR DEFINITION OF DRAWING STATUS NOTES, SEE NAS 380.

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE.

PROCUREMENT
SPECIFICATION

NONE

TITLE

RING-INTERNAL RETAINER

CLASSIFICATION
STANDARD PARTNAS Documents
SHEET 2