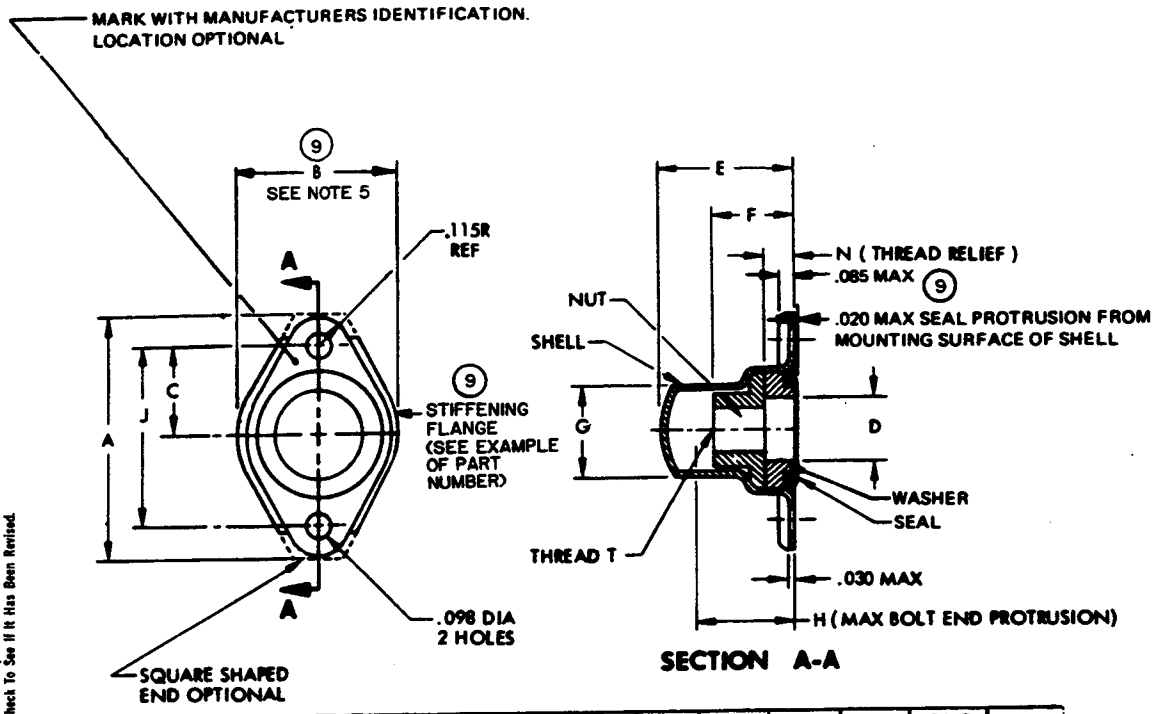
Aerospace Industries Association

NATIONAL AEROSPACE STANDARD

FED. SUP CLASS
5310



THREAD T	DASH NUMBER	A MAX	B MAX	C ±.005	D MIN	E MAX	F MAX	G MAX	BOLT END H MAX	J ±.002
.1120-40UNJC-3B	04	.840	.443	.295	.142	.405	.204	.352	.340	.590
.1380-32UNJC-3B	06				.173		.221			
.1640-32UNJC-3B	08				.194		.268			
.1900-32UNJF-3B	3				.220					
.2500-28UNJF-3B	4	1.000	.635	.376	.280	.560	.350	.419	.490	.752

THREAD T	N MIN	WEIGHT/100 LBS APPROX	
		STEEL	CRES
.1120-40UNJC-3B	.070	.41	.50
.1380-32UNJC-3B		.42	.51
.1640-32UNJC-3B		.43	.52
.1900-32UNJF-3B		.45	.54
.2500-28UNJF-3B	.105	1.00	1.10

MATERIAL:
(9) NUT - STEEL, SEE PROCUREMENT SPECIFICATION. CRES, AMS5525 (UNS S66286) OR AMS5732 (UNS S66286), A-286, NON-MAGNETIC
SHELL - STEEL, SEE PROCUREMENT SPECIFICATION. CRES, AMS5525 (UNS S66286), A-286, NON-MAGNETIC
WASHER - ALUMINUM ALLOY OR STEEL, SEE PROCUREMENT SPECIFICATION, CRES, AMS5525 (UNS S66286) OR AMS5732 (UNS S66286) A-286, NON-MAGNETIC
SEAL - 225°F: RUBBER, MIL-R-6855, CLASS 1, GRADE 60, DUROMETER A60, COLOR BLACK
- 350°F: FLUOROSILICONE RUBBER, MIL-R-25988, TYPE II, CLASS 1, DUROMETER A70, COLOR BLUE
- 450°F: SILICONE RUBBER, AMS3304, DUROMETER A70, COLOR RED

FINISH: STEEL NUT, SHELL AND WASHER-CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.
CRES NUT, SHELL AND WASHER-CLEAN AND PASSIVATE PER MIL-S-5002. WHEN CODED C (SEE SHEET 2), NUT-SILVER PLATE PER MIL-N-25027 TO A MINIMUM THICKNESS ON SURFACES WHICH CAN BE TOUCHED BY A .7500 (3/4 - INCH) BALL; THREADS SHALL SHOW COMPLETE COVERAGE BUT THICKNESS REQUIREMENT ON THREADS IS WAIVED
ALUMINUM ALLOY WASHER - ANODIZE OR CHEMICAL FILM PER MIL-N-25027, EXCEPT ANODIZE SHALL BE LIMITED TO TYPE I OR TYPE II. APPROVED DRY FILM LUBRICANT ON NUTS WHEN CODED AS EXPLAINED ON SHEET 2.

(9) LIST OF CURRENT SHEETS

NO.	REV.
1	9
2	8
3	5

APPROVAL DATE JUNE 1960 REVISION (9) 25 April 1991

CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE

THIRD ANGLE PROJECTION

PROCUREMENT SPECIFICATION
MIL-N-25027
EXCEPT AS NOTED

TITLE
NUT, SELF-LOCKING, PLATE-TWO LUG, CAP, FLOATING, REDUCED RIVET SPACING

CLASSIFICATION
STANDARD PART

NAS 1474

(8)

EXAMPLE OF PART NUMBER

NAS1474 A 08 — = SELF-LOCKING PLATE NUT WITH STEEL NUT AND SHELL, ALUMINUM ALLOY OR STEEL WASHER, FUEL RESISTANT MIL-R-6855 SEAL (225°F), .1640-32 THREAD, DRY FILM LUBRICATED

K=STIFFENING FLANGE REQUIRED
N=STIFFENING FLANGE PROHIBITED
NO SUFFIX LETTER=STIFFENING FLANGE AT MANUFACTURERS OPTION

DASH NUMBER AS TABULATED

A = STEEL NUT AND SHELL WITH ALUMINUM ALLOY OR STEEL WASHER, FUEL RESISTANT MIL-R-6855 SEAL (225°F), DRY FILM LUBRICATED

X = SAME AS "A" WITHOUT DRY FILM LUBRICANT

S = STEEL NUT, SHELL AND WASHER, FUEL RESISTANT MIL-R-25988 SEAL (350°F), DRY FILM LUBRICATED

Y = SAME AS "S" WITHOUT DRY FILM LUBRICANT

C = CRES NUT (SILVER PLATED), SHELL AND WASHER, NON-FUEL RESISTANT AMS3304 SEAL (450°F)

R = CRES NUT, SHELL AND WASHER, FUEL RESISTANT MIL-R-6855 SEAL (225°F), DRY FILM LUBRICATED

F = CRES NUT, SHELL AND WASHER, FUEL RESISTANT MIL-R-25988 SEAL (350°F), DRY FILM LUBRICATED

DOCUMENT NUMBER

FLOAT: MINIMUM RADIAL FLOAT .015.
MAXIMUM AXIAL FLOAT .030.

PRESSURE RANGE: 0 TO 50 PSIG.

TEMPERATURE RANGE: MIL-R-6855 RUBBER (-65°F TO 225°F).
MIL-R-25988 FLUOROSILICONE RUBBER (-65°F TO 350°F).
AMS3304 RUBBER (-65°F TO 450°F).

THREADS: THREADS IN ACCORDANCE WITH MIL-S-8879 BEFORE LUBRICATION.

MARKING: (8) THE SMALLEST CONTAINER USED TO PACKAGE "A", "X" AND "R" CODED PARTS SHALL BE MARKED WITH THE CURE DATE (QUARTER AND YEAR) OF THE OLDEST RUBBER SEAL CONTAINED THEREIN. THE AGE OF RUBBER SEALS SHALL NOT EXCEED 20 QUARTERS AT THE TIME OF DELIVERY TO THE CONTRACTOR.

NOTES:
1. THREAD ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH A BOLT IN THE MAXIMUM MISALIGNED POSITION.
2. NUT AND SHELL SHAPE OPTIONAL, WITHIN SPECIFIED MAXIMUM DIMENSIONS.
3. MAGNETIC PERMEABILITY OF CRES NUTS SHALL BE LESS THAN 2.0 (AIR = 1.0) FOR A FIELD STRENGTH H = 200 OERSTEDS. MAGNETIC PERMEABILITY INDICATOR PER MIL-I-17214 OR EQUIVALENT.
4. NACA RIVETING METHOD FOR ATTACHMENT NOT TO BE USED.
5. (8) B DIMENSION MAY BE .015 LARGER THAN MAX VALUES SHOWN IN TABLE FOR ITEMS WITH K SUFFIX(STIFFENING FLANGE REQUIRED)ONLY.

APPROVAL DATE JUNE 1960 REVISION (8) 25 April 1991

PERFORMANCE: QUALIFICATION TEST

1.0 ALL REQUIREMENTS OF MIL-N-25027 PERTAINING TO STEEL FLOATING PLATE NUTS INCLUDING AXIAL STRENGTH REQUIREMENTS OF TABLE I FOR REGULAR STEEL NUTS, SHALL APPLY TO THIS PART EXCEPT THE MAXIMUM TEMPERATURE SHALL BE 225°F, 350°F AND 450°F, AS APPLICABLE. A POSITIVE SEAL SHALL BE REQUIRED AFTER TESTING PER PARAGRAPH 3.9(PUSH OUT) AND 3.8.3(TORQUE OUT) OF MIL-N-25027. THE PUSH OUT AND TORQUE OUT TESTS SHALL BE CARRIED TO A PROOF LOAD EQUAL TO THE REQUIREMENT FOR THE APPLICABLE SIZE. ALL TESTS SHALL BE PERFORMED ON A SINGLE SHEET OF 2024-T3 OR 7075-T6 ALUMINUM ALLOY, NOMINAL THICKNESS OF .312 INCHES, AND HAVING A MINIMUM OF TEN (10) INCHES SQUARE (100 SQUARE INCHES) UNSUPPORTED AREA. SIX(6) NUTS SHALL BE EQUALLY SPACED ON A CIRCLE HAVING A DIAMETER OF SEVEN AND ONE HALF (7-1/2) INCHES. THE NUTS SHALL BE ATTACHED TO THE PLATE BY SOCKET HEAD CAP SCREWS THREADED INTO BLIND HOLES TAPPED TO A DEPTH OF APPROXIMATELY .218 INCHES WITH #3-48 SCREWS. THE #3-48 SCREWS SHALL BE SEATED TO FOURTEEN (14) INCH-POUNDS. INSTALL BOLTS IN NUTS USING A SEATING TORQUE THREE (3) TIMES THE MAXIMUM LOCKING TORQUE OF MIL-N-25027. THREE (3) NUTS SHALL BE TESTED WITH BOLTS INSTALLED AND THREE (3) NUTS WITH BOLTS REMOVED. (5)

2.0 A POSITIVE SEAL SHALL BE CONSIDERED TO MEAN NO LEAKAGE BY VISUAL EXAMINATION, USING DYED LIQUID, WHEN SUBJECTED TO A STATIC DIFFERENTIAL PRESSURE OF 50 PSI +2 -0 PSI FOR A PERIOD OF FIVE (5) MINUTES MINIMUM. THE LIQUIDS USED SHALL BE FUELS CONFORMING TO MIL-J-5624 OR TT-S-735, TYPE III, FOR 225°F AND 350°F SEALS, AND METHYL ALCOHOL FOR 450°F SEALS. IN ADDITION, A CYCLING TEST SHALL BE PERFORMED CONSISTING OF A CYCLING PRESSURE OF BETWEEN 0 AND 50 PSI FOR 1000 CYCLES. A CYCLE BEING COMPLETED APPROXIMATELY EVERY TWELVE (12) SECONDS. (5)

2.1 A POSITIVE SEAL SHALL BE PROVIDED AFTER AGING AN EMPTY TEST FIXTURE WITH NUTS MOUNTED IN A HOT AIR FURNACE AT 450°F ±10°F, 350°F ±10°F OR 225°F ±10°F, AS APPLICABLE FOR A PERIOD OF 4 HOURS ±10 MINUTES. A CYCLING TEST SHALL BE PERFORMED AT TEMPERATURE WITHOUT LIQUID USING AIR PRESSURE ALONE. THE TEST PRESSURES AND PROCEDURES OF PARAGRAPH 2.0 SHALL APPLY EXCEPT THE NUMBER OF PRESSURE CYCLES SHALL BE LIMITED TO 100. DURING THIS PERIOD, SINCE THERE IS NO LIQUID IN THE TANK, THERE IS NO CHECK FOR LEAKAGE. (5)

2.2 IMMEDIATELY AFTER ELEVATED TEMPERATURE TEST CYCLES, THE FIXTURE SHALL BE REMOVED FROM THE FURNACE AND ALLOWED TO COOL TO ROOM TEMPERATURE. AT ROOM TEMPERATURE, LIQUID SHALL BE ADDED AND POSITIVE SEAL SHALL BE PROVIDED IN LIQUIDS WHEN TESTED IN ACCORDANCE WITH TEST PRESSURES AND PROCEDURES OUTLINED IN PARAGRAPH 2.0.

2.3 IN ADDITION, THE SAMPLES TESTED IN 2.1 SHALL PROVIDE A POSITIVE SEAL AFTER A CYCLING TEST HAS BEEN PERFORMED AS FOLLOWS: PLACE TEST FIXTURE IN A COLD BOX AT -65°F ±10°F AND ALLOW TO SOAK FOR A PERIOD OF 4 HOURS ±10 MINUTES. AFTER SOAKING AT THIS TEMPERATURE, APPLY A STATIC PRESSURE OF 50 PSI ±5 PSI FOR A PERIOD OF ONE (1) HOUR. A CYCLING TEST SHALL THEN BE PERFORMED BY HOLDING A PRESSURE OF 50 PSI ±5 PSI ON THE TEST FLUID FOR A PERIOD OF TWENTY (20) SECONDS AND RELEASING PRESSURE FOR TEN (10) SECONDS. REPEAT THIS THIRTY (30) SECOND CYCLE FOR 120 CYCLES. ALL TESTING UNDER THIS PARAGRAPH SHALL BE PERFORMED AT -65°F ± 10°F.

PROCUREMENT SPECIFICATION:
MIL-N-25027 EXCEPT AS NOTED. ALL NUTS SHALL MEET QUALIFICATION AND INSPECTION REQUIREMENTS. MANUFACTURERS SHALL PROVIDE EVIDENCE OF QUALIFICATION WHEN REQUIRED. TESTING SHALL BE PERFORMED BY MANUFACTURER OR INDEPENDENT LABORATORY. PROCURING AGENCY MAY CONDUCT CONFIRMING QUALIFICATION TESTS. NO QPL SHALL BE ESTABLISHED.

APPROVAL DATE JUNE 1960 REVISION (3) 15 APRIL 1968 (4) 31 DEC. 1968 (5) 8 June 1981

Published and distributed by: National Standards Association, Inc.
5161 River Road
Washington, D.C. 20016