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P.A. AIR FORCE - II		TITLE		MILITARY STANDARD	
Other Cast Army - Navy - AS		(C) FITTING O-RING GENERAL FEATURES OF CONSTRUCTION		MS33581	
PROCUREMENT SPECIFICATION NONE		SUPERSEDES.		SHEET 1 OF 3	

THIS IS A DESIGN STANDARD, NOT USED AS A PART NUMBER. (C) FOR RELATED SEE SHEETS 1, 2 AND 3.

FED. SUP. CLASS. 1967

O-RING CROSS SECTION DIA	D ±.003	E ±.0005	R RAU	W ±.005
.139	.104	.0520	.010 TO .030	.182

(a) GRIP GROOVE SAME AS PLAIN GROOVE EXCEPT AS NOTED.

(b) GROOVE VOLUME FOR GRIP GROOVE SHALL BE 103 PERCENT TO APPROXIMATELY 136 PERCENT OF THE VOLUME OF A NEW O-RING, DEPENDING ON THE O-RING TOLERANCE, IN ACCORDANCE WITH MS29513 AND THE MANUFACTURING TOLERANCE OF THE GROOVE.

(c) IF THE METAL THICKNESS IS REDUCED, A MINIMUM FLAT FACE OR EDGE DISTANCE OF .10 SHALL BE MAINTAINED WHEREVER PRACTICABLE ON EACH SIDE OF THE O-RING GROOVE AND ADJACENT TO EACH ATTACHMENT. THIS AREA IS DEFINED AS CRITICAL FLAT AREA, AND NO LOCAL PROTRUSIONS SHALL EXTEND ABOVE THE SURFACE PLANE OF THE FLANGE WHICH MAY CAUSE A GAP WHEN MATED WITH ANOTHER PLANE SURFACE.

(d) IF NORMAL OPERATING PRESSURE EXERTS FORCE ON THE O-RING IN THE DIRECTION OF GROOVE OR (OUTWARD PRESSURE), DIMENSION B SHALL EQUAL THE NOMINAL VALUE OF THE OD OF THE O-RING WITH A TOLERANCE OF -0, -1 PERCENT (UP TO -.060 MAX).

(e) IF NORMAL OPERATING PRESSURE EXERTS FORCE ON THE O-RING IN THE DIRECTION OF GROOVE ID (INWARD PRESSURE), DIMENSION F SHALL EQUAL THE NOMINAL VALUE OF THE ID OF THE O-RING WITH A TOLERANCE OF -0, +1 PERCENT (UP TO +.040 MAX).

(f) ROUGHNESS HEIGHT RATING (RHR) 90 BETWEEN TANGENT POINTS; RHR 225 FOR REMAINING GROOVE AREA; SEE STANDARD MIL-STD-10.

DIMENSIONS IN INCHES.

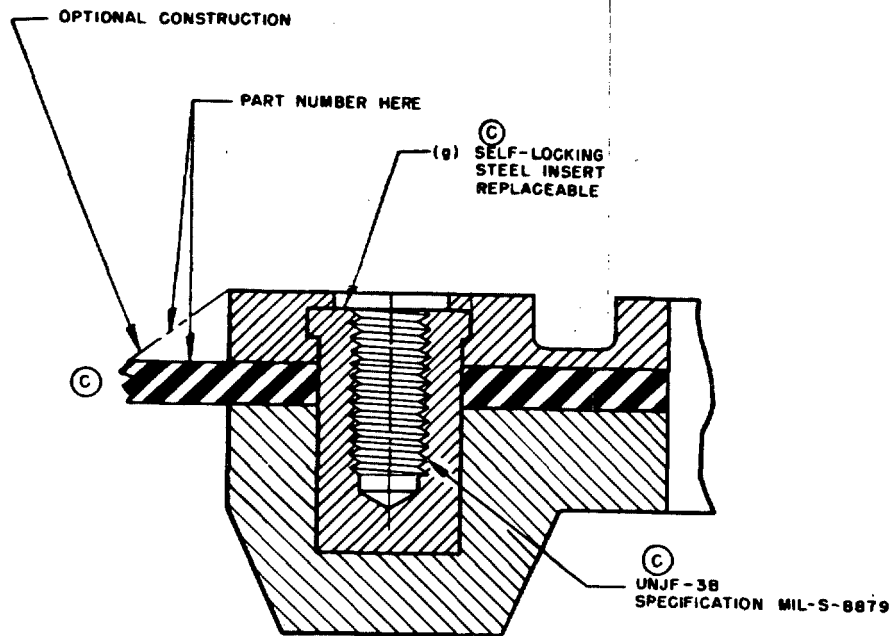
THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT O. DATE OF INVITATIONS FOR BIL.

O-RINGS SPECIFIED FOR USE WITH THE FLANGE SHALL CONFORM FUNCTIONALLY TO MIL-P-315 AND DIMENSIONALLY TO MS29513.

(D) CANCELLED AS OF 6 NOVEMBER 1987

APPROVED 11 APR 77 REVISED A 24 Feb 58 D 27 May 59 C 30 Aug 74 D 6 NOV 87

FED. SUP CLASS
1560

OPTIONAL CONSTRUCTION, TWO PIECE CONSTRUCTION SHOWN

(g) INSERTS: THE CENTERLINE OF INSERT SHALL BE NORMAL TO THE PLANE OF THE SEALING SURFACE OF THE FLANGE WITHIN 1°.

(h) IN TWO PIECE CONSTRUCTION: THICKNESS UNDER GROOVE .072 MINIMUM.

THE MS PART NUMBER OF THE FLANGE SHALL BE LEGIBLY MOLDED IN .12 CHARACTERS ON A VISIBLE SURFACE OF THE FLANGE.

DISTANCE BETWEEN INSERTS AS MEASURED AROUND THE CIRCUMFERENCE OF THE BOLT CIRCLE SHALL NOT EXCEED 2.5.

DIMENSIONS IN INCHES.

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P.A. Air Force - 11 Other Cust Army - Navv - AS	TITLE (C) FITTING, O-RING, GENERAL FEATURES OF CONSTRUCTION	MILITARY STANDARD MS33581
PROCUREMENT SPECIFICATION NONE	SUPERSEDES:	SHEET 2 OF 3

APPROVED 10 Apr 57 REVISED (C) FOR CHANGES SEE SHEETS 1, 2 & 3

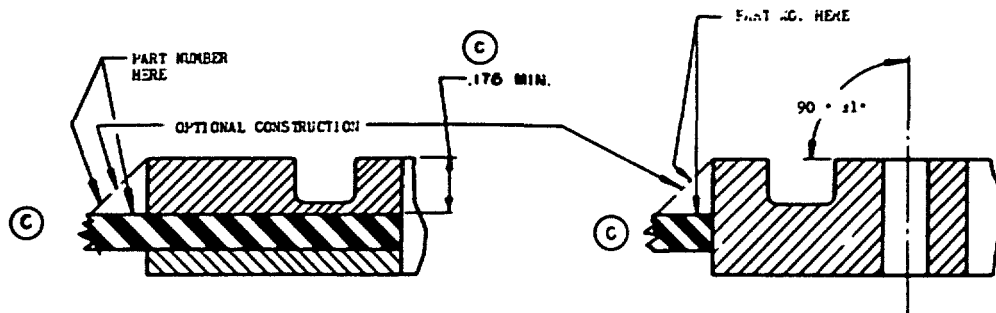
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DD FORM 672-1
1 SEP 57

(coordinated)

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1:60



TWO PIECE CONSTRUCTION

ONE PIECE CONSTRUCTION

OPTIONAL CONSTRUCTION

FLANGE THICKNESS VARIATION FOR INDIVIDUAL FLANGE SHALL NOT VARY MORE THAN THE FOLLOWING:

FLANGE ID	VARIATION
UP TO 3.5	.010
3.5 TO 6.5	.015
OVER 6.5	.020

BOLT HOLES: THE CENTERLINE OF THE BOLT HOLE THROUGH THE FLANGE SHALL BE NORMAL TO THE PLANE OF THE SEALING SURFACE WITHIN 1°.

DISTANCE BETWEEN BOLT HOLES AS MEASURED AROUND THE CIRCUMFERENCE OF THE BOLT CIRCLE SHALL NOT EXCEED 2.5.

THE MS PART NUMBER OF THE FLANGE SHALL BE LEGIBLY MOLDED IN .12 CHARACTERS ON A VISIBLE SURFACE OF THE FLANGE.

DIMENSIONS IN INCHES.

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P.A. AIR FORCE - II Other Cast Army - Navy - A8	TITLE (C) FITTING O-RING GENERAL FEATURES OF CONSTRUCTION	MILITARY STANDARD MS33581
PROCUREMENT SPECIFICATION NONE	SUPERSEDES:	SHEET 3 OF 3

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