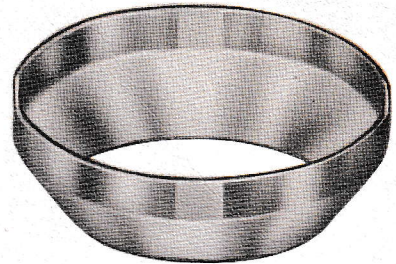
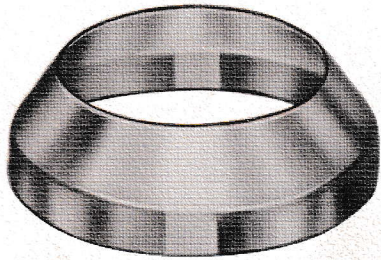


conical seal*
Boss



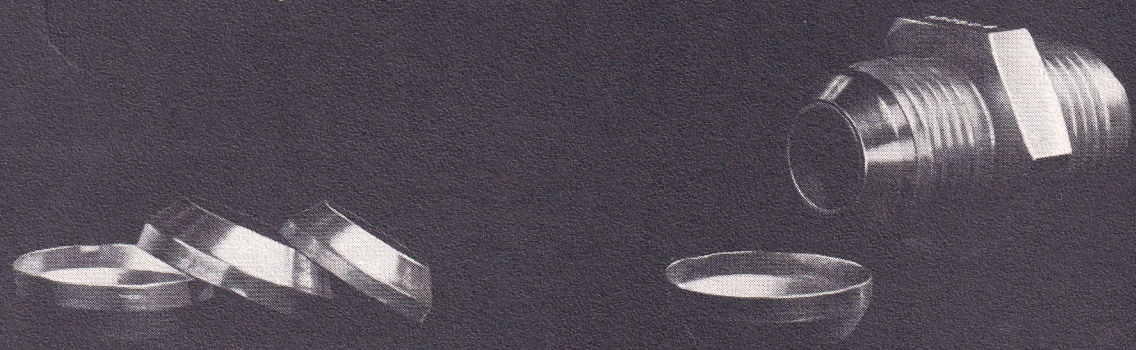
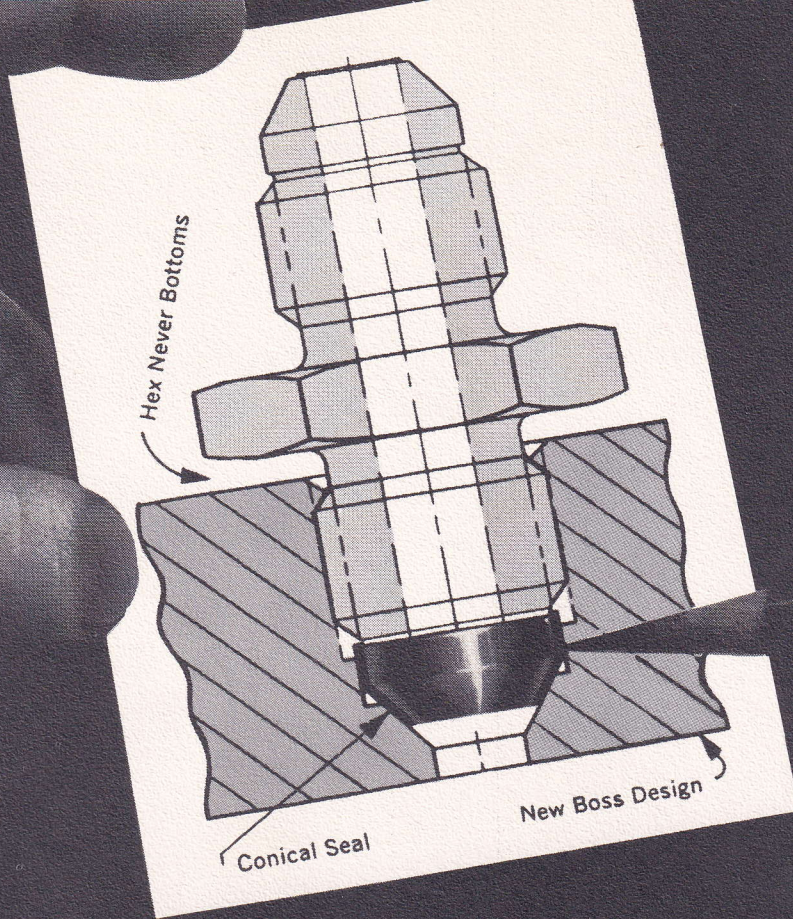
VOI-SHAN

MANUFACTURING COMPANY

A DIVISION OF VOI-SHAN INDUSTRIES, INC.

8463 HIGUERA ST., CULVER CITY, CALIFORNIA

*MANUFACTURED UNDER LICENSE
FROM GENERAL DYNAMICS CORP.



Voi-Shan's "Fitting" Solution to Sealing Problems

ANOTHER FIRST: Voi-Shan's latest fitting design is a superior replacement for the present AND 10050 Boss design that eliminates the present use of the rubber "O" ring by incorporating the Conical Seal into the Boss. This is accomplished by a shorter controlled depth due to the removal of the "O" ring, while still allowing use with the standard AN fittings. Advantages of this new design are:

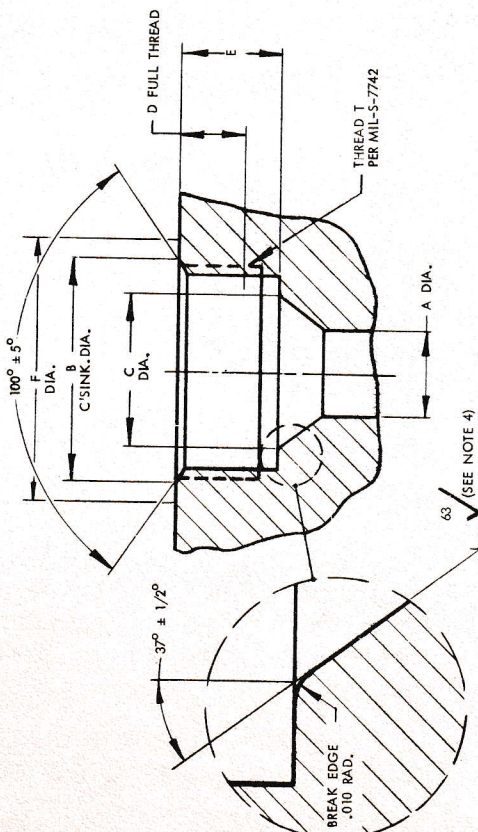
- 1 Increase of the temperature spectrum from the -40°F to $+400^{\circ}\text{F}$ range to -420°F to $+1500^{\circ}\text{F}$ range.
- 2 Extended valve life; Due to greater resistance to temperatures in Cryogenic and Radiation applications.

THE CONICAL SEAL* employed in this design is a soft malleable crush washer specifically for use on the conical sealing surface of AN type flared fittings. Imperfections of the conical surfaces and variations in concentricity are corrected by the use of the seal. It is available in a wide variety of sizes and materials.

Voi-Shan also offers the Scott Connector System, which is a lightweight small envelope replacement for present flared and flareless fittings.

The conical seal is a further example of Voi-Shan's engineering superiority in the precision fastener and fittings industry. Write for detailed information and catalogs on this and other Voi-Shan products.

*Manufactured under license from General Dynamics Corp.



DASH NO.	TUBE SIZE O.D.	THREAD T	A	B	C	D	E	F
2	1/8	5/16-24 UNF-3B	.062	±.010	.202	.252	±.010	MIN.
3	3/16	3/8-24 UNF-3B	.125	±.010	.265	.332	±.010	MIN.
4	1/4	7/16-20 UNF-3B	.172	±.003	.320	.385	±.010	MIN.
5	5/16	1/2-20 UNF-3B	.224	±.003	.382	.452	±.010	MIN.
6	3/8	9/16-18 UNF-3B	.292	±.004	.441	.530	±.010	MIN.
8	1/2	3/4-16 UNF-3B	.391	±.004	.571	.689	±.010	MIN.
10	5/8	7/8-14 UNF-3B	.483	±.004	.732	.874	±.010	MIN.
12	3/4	1-1/2-12 UNF-3B	.602	±.006	.909	1.072	±.010	MIN.
16	1	1-5/16-12 UNF-3B	.843	±.006	1.198	1.422	±.010	MIN.
20	1-1/4	1-5/8-12N-3B	1.080	±.006	1.468	1.715	±.010	MIN.
24	1-1/2	1-7/8-12N-3B	1.314	±.007	1.885	2.200	±.010	MIN.
28	1-3/4	2-1/4-12UN-3B	1.550	±.007	2.260	2.695	±.010	MIN.
32	2	2-1/2-12UN-3B	1.784	±.007	2.510	3.043	±.010	MIN.
40	2-1/2	3-12UN-3B	2.284	±.010	3.010	3.739	±.010	MIN.
48	3	3-1/2-12UN-3B	2.784	±.010	3.239	4.078	±.010	MIN.

- NOTES:
- REMOVE ALL HANGING BURRS AND SLIVERS.
 - MAXIMUM SURFACE ROUGHNESS (REF. MIL-STD. 10) 125 RHR UNLESS OTHERWISE SPECIFIED.
 - PITCH DIA. OF THREAD, DIMENSION C AND THE 37° ANGLE MEASURED AND CALCULATED AS AN INCLUDED ANGLE SHALL BE CONCENTRIC WITHIN .008 TIR.
 - 37° SURFACE SHALL BE FREE FROM BURRS, LONGITUDINAL AND SPIRAL TOOL MARKS AND VISIBLE FLAT SPOTS. ANNUAL TOOL MARKS WILL BE ALLOWED TO .63 RHR MAXIMUM.
 - SURFACE OF BOSS SHALL BE SPOT-FACED, DIAMETER "F".
 - USE VSFT 3401 ROUGHING TOOL AND VSFT 3400 PORTING TOOL TO FABRICATE VSD 1000 BOSS.

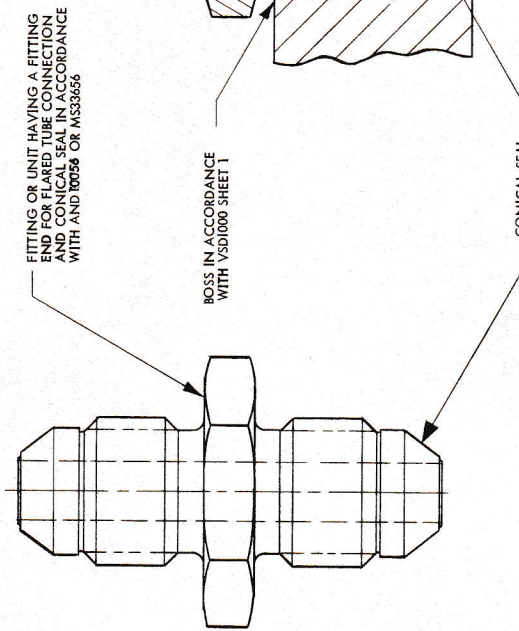
DIMENSIONS IN INCHES: TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES ± 1° DECIMALS ± .005 FRACTIONS ± 1/64 FOR USE WITH VSF 1075 CONICAL SEAL AND FITTING ENDS PER AND 10056 OR MS33656.

APPROVED DATE: 10 June 1960
LATEST REVISION DATE: 3 JANUARY 1962

TITLE: BOSSSES, STANDARD DIMENSIONS FOR CONICAL SEAL STRAIGHT THREAD

PATENT APPLIED FOR.

STANDARD VSD 1000 SHEET 1 OF 2



- PROCEDURE FOR INSTALLATION OF AND 10056 OR MS33656 FITTING END.
- INSTALL CONICAL SEAL ON THE FITTING AS SHOWN IN DETAIL 1.
 - SCREW THE FITTING ASSEMBLY INTO THE BOSS UNTIL IT BOTTOMS TIGHTLY IN THE BOSS AS SHOWN IN DETAIL 2.
 - USE STANDARD AND 10064 TORQUES.
 - FOR PROPER END RESULTS THIS DESIGN TO BE USED IN CONJUNCTION WITH VS 1075 CONICAL SEAL.

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