

UNCLASSIFIED

OCT 30 1962

File No: TX-54, 3-2
T-18746
Test Completed: 5-15-62

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
Review Date: 6/24/98	Determination (Circle Numbers):
Author: W. C. Layne	1. Classification Retained
Review Date: 6/29/98	2. Classification Changed to: UNCL
Authority: ADD W. C. Layne	3. Contains No DOE Classified Information
	4. Coordinate With:
	5. Contains UCAI?
	6. Comments: DECLASSIFY

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*Assigned to CRD per auth:
Per. [unclear] E. H. [unclear] 7331
[unclear] 244 [unclear] 11/2/62
11/8/62 [unclear]*

MR. W. E. TREIBEL - 7146
Attn: E. L. Ashland

CENTRAL RECORD FILE

Re: Hydrostatic Pressure Test on the Rear Case Casting of a Type 3 B-54
SADM

0	5	4	4	7					
					3	0	4	4	6
									2
									0
									5
									6
									2
									7
									1
									9

Summary of Test

The forward side of the diaphragm of a rear case section of a type 3 B-54 SADM was pressurized to 40 psi. The deflection in the center of the diaphragm at 40 psi was .026 inches with a permanent set of .008 inch.

The diaphragm was then pressurized to failure and the KC-1303 Ferroelectric Transducer mounting began to leak at 68 psi. At a pressure of 75 psi the leak was too large for the pressure pump to overcome and the test was halted.

Object of Test

The object of this test is to see if a beefed up more rigid rear case casting of a type 3 B-54 SADM can stand allowable usage pressure without fracturing.

Authorization for Test

This test was authorized in an Environmental Test Order from Division 7146 dated May 5, 1962. The requesting organization's consultant was Mr. A. A. Rakoczy.

Test Equipment and Instrumentation

The item tested was a type 3 B54 SADM (Unit No. 175043.00; BSW X003-62)

Equipment Used

- 1 - Sprague Hydraulic Pump, 6000 psi capacity
- 1 - Baldwin SR-4 Pressure Cell, 100 psi capacity, Serial No. 1065
- 1 - Baldwin SR-4 Strain Indicator, Serial No. 900743

0283

Instrumentation Used

- 2 - Starrett Dial Indicators, least graduation .001"

FILE
ACC'D
TX 54/SADM
3-2

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW DOWNGRADING OR DECLASSIFICATION STAMP	
CLASSIFICATION CHANGED TO: U	AUTHORITY: W.C. Layne
PERSON CHANGING MARKING & DATE: 7/1/98	RECORD ID: 98SN2694
PERSON VERIFYING MARKING & DATE: 7/1/98	DATED: 6/29/98

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Procedure

The diaphragm of the rear case casting of the type 3 B54 SADM was sealed with a dummy MC-1321 Interval Timer. An MC-1466 Locked Secured Cover with an attachment to connect to the pressure pump was attached to the rear case.

Two dial indicators were mounted to take deflections of the diaphragm with respect to the rear case at the locations shown in Figure 1.

The cavity between the diaphragm of the rear case casting and the MC-1466 was filled with water and pressurized internally to 40 psi in 5 psi increments.

Deflection readings were taken at each increment of load. The pressure was released to zero every 10 psi to see if there had been any permanent set in the diaphragm.

The MC-1466 was removed from the rear case casting and the front case section was mounted to the rear case casting on the side opposite from where the MC-1466 was mounted in the previous test.

The front case section with the rear case casting attached was submerged in a pressure chamber and external pressure was applied until failure occurred.

Results

Load-deflection data on the rear case diaphragm of the B-54 SADM when hydrostatically tested to 40 psi are listed in Table I.

The rear case diaphragm of the B-54 SADM was hydrostatically tested with external pressure to failure. The MC-1303 (see Figure 1) began to leak at 58 psi and the test was halted at 75 psi because the leak was too large for the pressure pump to overcome.

L. J. Woolrich

L. J. WOOLRICH - 7322-1

R. P. May

Test Project Engineer: R. P. MAY - 7331-1

R. S. Hooper

Approved By: R. S. HOOPER - 7331-1

LJW:7322-1:EW

Encl: Figure 1
Table I

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Central Record File, 3421-3

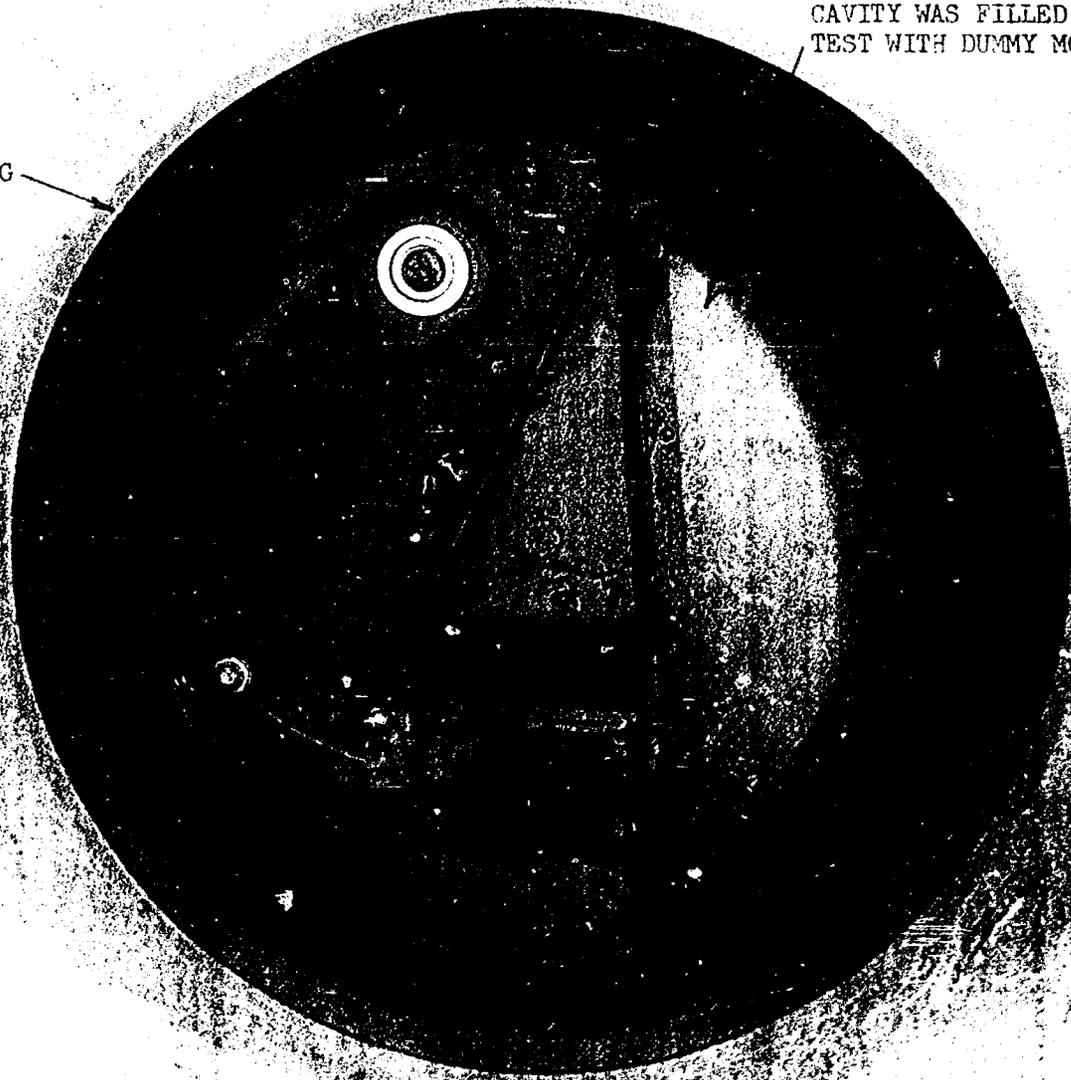
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[REDACTED]

CAVITY WAS FILLED DURING
TEST WITH DUMMY MC-1321

REAR CASE CASTING



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FIGURE 1 - DIAL INJECTOR LOCATIONS IN HYDROSTATIC PRESSURE TEST OF THE REAR CASE CASTING OF A TYPE 3 1/2" GASM.

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TABLE I
LOAD-DEFLECTION DATA IN HYDROSTATIC PRESSURE TEST
ON THE
REAR CASE CASTING OF A TYPE 3 B54 SADM

<u>Load (PSI)</u>	<u>*Deflection (inches)</u>	
	<u>1</u>	<u>2</u>
0	.000	.000
5	.001	.000
10	.005	.002
0	.000	.000
15	.009	.006
20	.012	.009
0	.000	.000
25	.016	.011
30	.019	.013
0	.000	.001
35	.026	.020
40	.025	.026
0	.000	.003

* Location of deflection points are shown in Figure 1