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0591

UNCLASSIFIED

aug. 4, 1958

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 9/15/98
Authority: ADC ADD
Name: R B Craner
2nd Review Date: 9/24/98
Authority: ADD
Name: W C Layne
Determination (Circle Numbers):
1. Classification Retained
2. Classification Changed to:
3. Contains No DOE Classified Information
4. Coordinate With:
5. Contains UCAI?
6. Comments: OF for Openness

AUG 4 1958

Case No. 756.00
Ref. Sym: 1612 (794)
Project No. TM-580
File: XW-40, 3-2

MR. W. E. TRIEBEL - 1246

Attn: Mr. G. Treadwell - 1246

Re: Centrifuge Test of the LaCrosse Application of the XW-40

MAR 2 1959

51 ORG. 4722

PROGRAM

ORG.

5856

Summary of Results

An XW-40 hardware test unit contained in a LaCrosse D case was subjected to two combined centrifuge loadings. The first test combined loads of 11.7 g vertical and 11.7 g lateral. The second test combined loads of 31.3 g longitudinal aft and 8.6 g vertical. No damage to any component, as a result of the test, was observed.

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3422-4

Object of Tests

The object of this test was to determine the structural adequacy of the XW-40 and LaCrosse mounting arrangements to withstand inertia loads encountered during operation of the LaCrosse missile.

Reason for Test

The test was requested in a Work Order Authorization from Mr. W. E. Triebel, 1246, to Mr. P. H. Adams, 1612, dated February 12, 1957.

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CENTRAL RECORD FILE

Summary of Past Tests

The XW-40 had not previously been centrifuge tested in the LaCrosse application. The XW-40 in the Bomarc application was pressurized to 15 psi and subjected to centrifuge loads of 46.8 g in each of three orthogonal directions as reported in a memo, "Centrifuge Test of XW-40," Ref. Sym: 1612(522), Project No. TM-580, from R. I. Butler, 1612, to W. E. Triebel, 1246, dated May 9, 1958. No evidence of failure or yield was observed.

The XW-40/Bomarc warhead was statically tested prior to centrifuge testing as described in a memo "Static Test of XW-40 for Bomarc Application," Ref. Sym: 1612 (530), Project No. TM-588, from L. J. Woolrich, 1612, to W. E. Triebel, 1246, dated December 3, 1957. The test assembly withstood simulated centrifuge loads of 51.6 g without indication of failure or yield.

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CENTRAL RECORD FILE
ACCOUNTABILITY CARD

XW-40 La Crosse
3-2

INVENTORIED

SEP 14 1965

3428-3

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP

CLASSIFICATION CHANGED TO: U	AUTHORITY: W C Layne
Emelda Selph 9/29/98	RECORD ID: 98SN4444
PERSON CHANGING MARKING & DATE	
W C Layne 9/29/98	DATED: 9/24/98
PERSON VERIFYING MARKING & DATE	

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Setup for Test

Figure 1 is a photograph depicting the test setup for the combined vertical and lateral loading. Figure 2 is a photograph showing the mounting rings used in the two tests. Figures 3 and 4 are sketches of the unit mounted for the two tests.

The components tested are listed in Table I. The test equipment used is listed in Table II.

Procedure

The XW-40 mounted in the LaCrosse was successively mounted in the centrifuge in the orientations shown in Figures 3 and 4. Inertia loadings of 16.6 g (resultant of 11.7 g vertical and 11.7 g lateral) and 32.4 g (resultant of 31.3 g longitudinal aft and 8.6 g vertical) were applied.

Results

No damage to the unit or any of the components was observed.

Conclusions

The XW-40 in the LaCrosse configuration is structurally adequate to withstand the loads applied.

R. I. BUTLER - 1612-1

D. T. JUDD - 1612-1

Approved By: P. H. ADAMS - 1612

RJB:1612-1:mad

Distribution:
1/5A W. E. Triebel, 1246
2/5A W. A. Gardner, 1610
3/5A D. M. Bruce, 1282
4/5A C. L. Gomel, 5523
5/5A R. K. Smeltzer, 7221-3

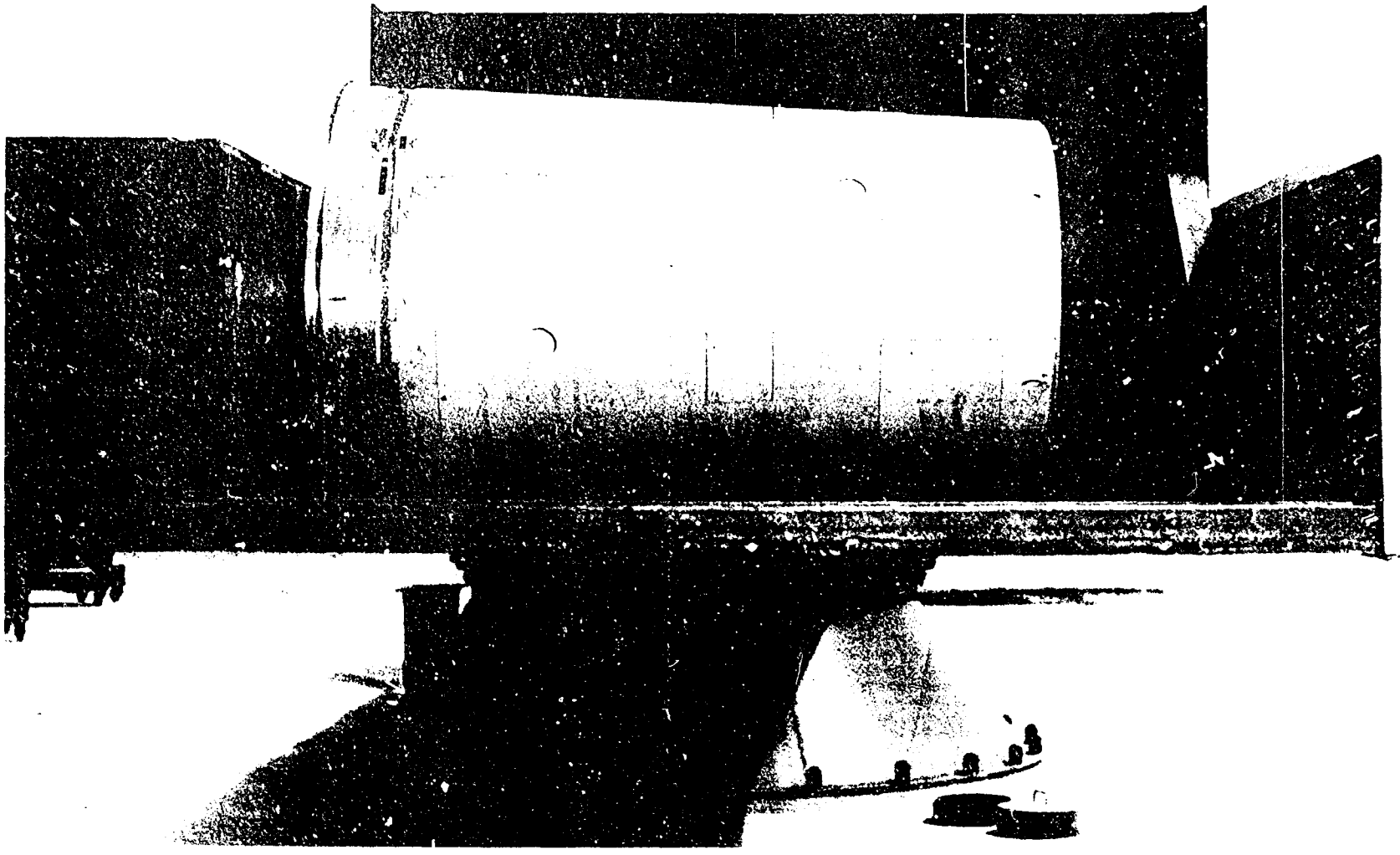

FIG. 1 -- TEST SETUP FOR COMBINED LATERAL AND VERTICAL CENTRIFUGE TEST OF THE XM-40 LACROSSE APPLICATION.

D# 106503

REF. SYM: 1612 (794)
PROJECT NO. TM-580

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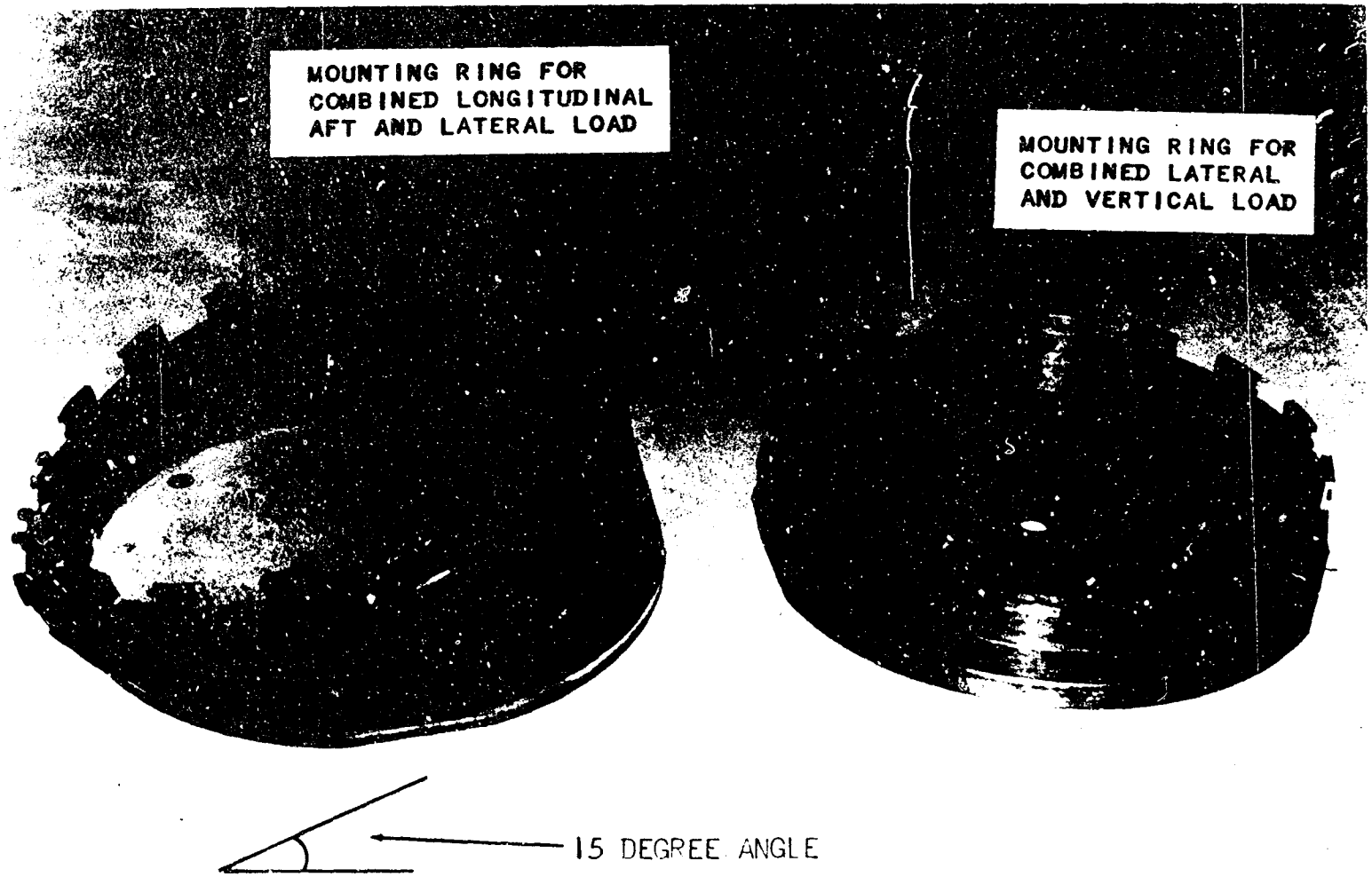

FIG. 2 -- MOUNTING RINGS USED IN CENTRIFUGE TEST OF XW-40 LACROSSE APPLICATION

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D# 108873

REF. SYM: 1612 (794)
PROJECT NO. TM-580

#594

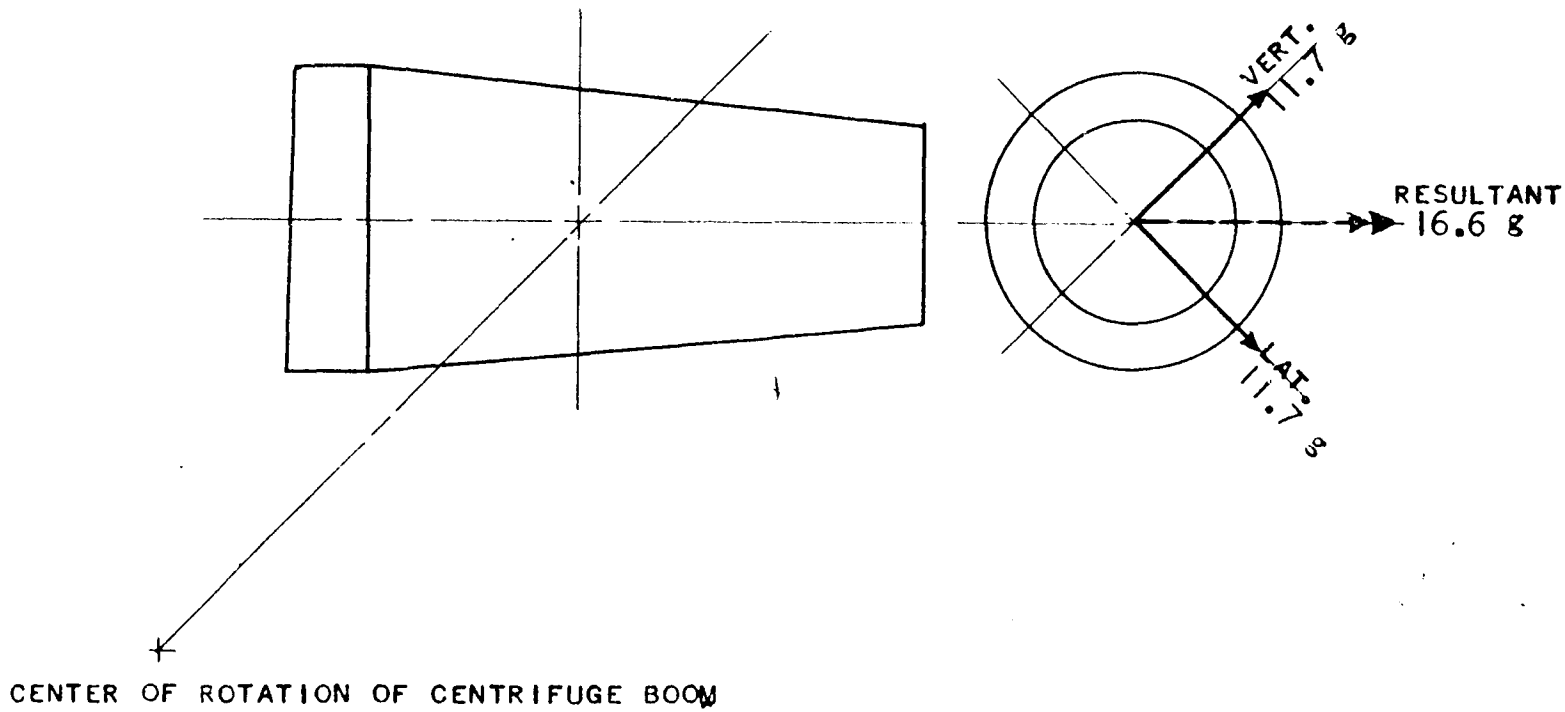

FIG. 3 -- TEST SETUP FOR COMBINED 11.7 g LATERAL AND 11.7 g VERTICAL CENTRIFUGE TEST OF THE XW-40 LACROSSE APPLICATION.

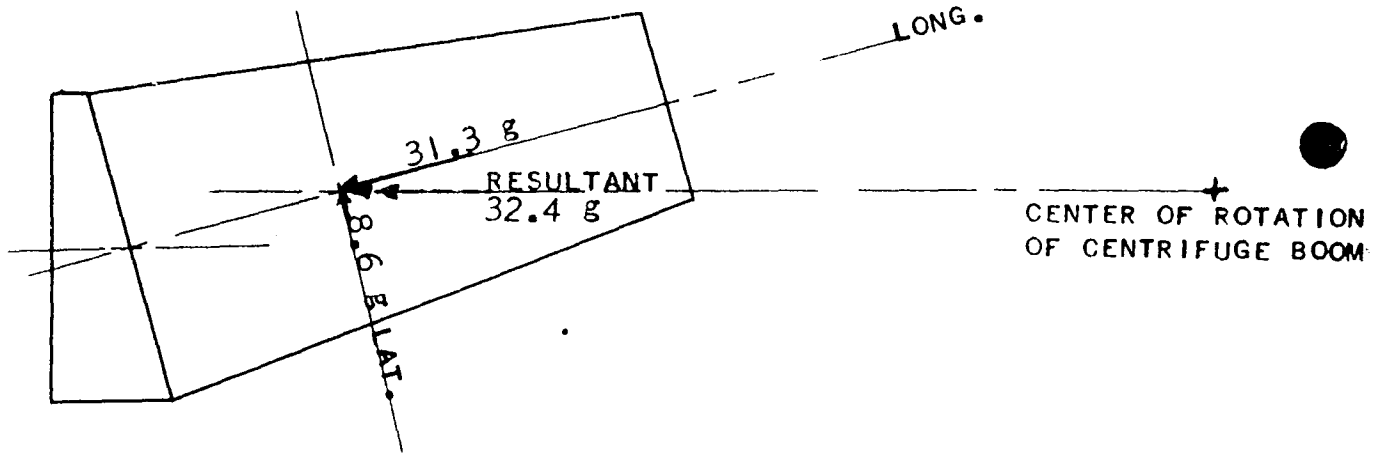

FIG. 4 -- TEST SETUP FOR COMBINED 8.6 g LATERAL AND 31.3 g LONGITUDINAL AFT CENTRIFUGE TEST OF THE XW-40 LACROSSE APPLICATION.

REF. SYM: 1612 (794)
PROJECT NO. TM-580

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Ref. Sym: 1612(794)
Project No. TN-580

TABLE I

COMPONENTS TESTED -- CENTRIFUGE TEST OF THE

XW-40 IN THE LACROSSE APPLICATION

Component	Serial Number	Drawing Number
XW-40		
XMC 863	AA2123	
XMC 864	AA117	
XMC 865	107	
XMC 721	A 5022-17	
XMC 796	AA-0047-D7	
Type A Resevoir	JP126K6	
2 ea Dummy Zippers	-	
Concrete Ball	-	
LaCrosse D - Compartment	-	8805228

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TABLE II

EQUIPMENT USED IN CENTRIFUGE TEST OF

XW-40 IN THE LACROSSE APPLICATION

No.	Unit	Type	Model	Serial
1	Consolidated Recording Oscillograph	5-119R		8148
1	Miller Carrier Amplifier System	C-3	A11162	1
1	Miller Carrier Amplifier System	C-3	A11162	2
1	Hydraulic Centrifuge			