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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW	
1 st Review Date: <u>7/6/98</u>	Description (Circle Numbers):
Authority: <u>W.C. Payne</u>	1. Classification Retained
2 nd Review Date: <u>7-3-98</u>	2. Classification Changed to: <u>ONCC</u>
Authority: <u>W.C. Payne</u>	3. Contains No DOE Classified Information
	4. Coordinate With: _____
	5. Contains UCAJ: _____
	6. Comments: <u>Declassify</u>

AUG 22 1958

Case No. 702.00
Ref. Sym: 1612 (275)
Project No. TM-346
File: TX-15, 3-2

RECEIVED

AUG 2 1956

R & D FILES

MR. C. L. CARPENTER - 1217

Attn: Mr. B. S. Hill - 1217-1

Re: Static Test of TX-15 Centrifuge Jig

IN No.	
ACQUISITION FACILITY	
CARD	
FILE No.	<u>TX-15</u> <u>3-2</u>

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Summary of Results

The TX-15 centrifuge jig was mounted and statically tested by applying two equal static loads of 16.25 g (97,650 lbs.) each. The resultant of these static loads (138,100 lbs.) simulated an inertial load 25 per cent in excess of the loading to which the jig would be subjected to in the centrifuge test.

3427-1

Under these loading conditions, yielding or impending failure did not occur.

Object of Test

The object of this test is to determine if the TX-15 centrifuge jig is capable of withstanding a load of 16.25 g (138,100 lbs.) resultant without causing yielding or failure. This load is 25 per cent in excess of the load to which the jig will be subjected to in the centrifuge test.

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MAR 2 1959

BY ORG. 4/22
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Reason for Test

This test was conducted in accordance with a revised Work Order Authorization from C. L. Carpenter, 1217, to Elmer White, 1612-2, dated June 4, 1956.

SEP 14 '6

Function of Object Tested

The TX-15 centrifuge jig is used as a mounting fixture in performing the centrifuge test for the TX-15 weapon.

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Summary of Past Tests

No previous static tests have been performed on the TX-15 centrifuge jig by Division 1612.

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APR 1 1957
BY ORG. 12/1

Setup for Test

Figures 1 and 2 show the test setup used.

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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW DOWNGRADING OR DECLASSIFICATION STAMP	
CLASSIFICATION CHANGED TO: <u>U</u>	AUTHORITY: <u>W.C. Payne</u>
PERSON CHANGING MARKING & DATE: <u>Emelda Selph 7/15/98</u>	RECORD ID: <u>98SN)2958</u>
PERSON VERIFYING MARKING & DATE: <u>W.C. Payne 7/16/98</u>	DATED: <u>7/13/98</u>

CENTRAL M & R
CONTROL NO. Q

60468

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Project No. TM-346

Mr. C. L. Carpenter - 1217

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Test Item

TX-15 Centrifuge Jig (Dwg. No. DS(1241)52336).

Test Equipment

One Pathon hydraulic cylinder, 12-inch stroke, 12-inch bore.
One Blackhawk hydraulic jack, capacity 100 tons.
One Elliot 400,000 lb. load cell, Serial No. 4305.
One 2-3/8 inch diameter calibrated pull bar No. 13.

Test Instrumentation

Four Starrett dial indicators minimum reading .001 inches.

Procedure

The TX-15 centrifuge jig was mounted to a static setup that was especially designed to duplicate the mounting technique that would be used in the centrifuge test. As shown by Fig. 1 the TX-15 weapon was mounted in the centrifuge jig to provide a means of applying the load and to distribute the load to the jig as will occur in the centrifuge test. The simulated inertial load was statically applied by resolving the resultant load into two equal components; a longitudinal load acting along the longitudinal center line and a transverse load acting through the CG of the weapon. This loading condition directed the resultant load through the CG and at 45 degrees relative to the longitudinal centerline of the weapon. With this loading condition the resultant static load is approximately colinear with the inertial load that will be imposed in the centrifuge test.

Four dial indicators as shown by Fig. 2 were mounted on the jig back plate to measure total deflection of the jig.

The longitudinal and vertical loads were applied in 10 per cent increments to resultant of 16.25 g (138,100 lbs.) with deflection readings taken after each increment.

The longitudinal load was applied using a Pathon hydraulic cylinder and measured with a calibrated pull bar. The transverse load was applied using a hydraulic jack and measured with a calibrated load cell.

Results

The TX-15 centrifuge jig was mounted and statically tested by applying two equal static loads of 16.25 g (97,650 lbs.) each. The resultant of these static loads (138,100 lbs.) simulated an inertial load 25 per cent in

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excess of the loading to which the jig would be subjected in the centrifuge test. Under these loading conditions yielding or impending failure did not occur.

Four dial indicators placed on the jig back plate as shown by Fig. 2 indicated a maximum deflection at 125 per cent of centrifuge loading of 0.353 inches at dial indicator No. 2. Table I shows the deflection at each indicator for each increment of load.

Conclusion

The TX-15 centrifuge jig is structurally capable of withstanding the load to which it was tested.


A. F. TODARO - 1612-2

Approved by:


P. H. ADAMS - 1612

AFT:1612-2:as

DISTRIBUTION:

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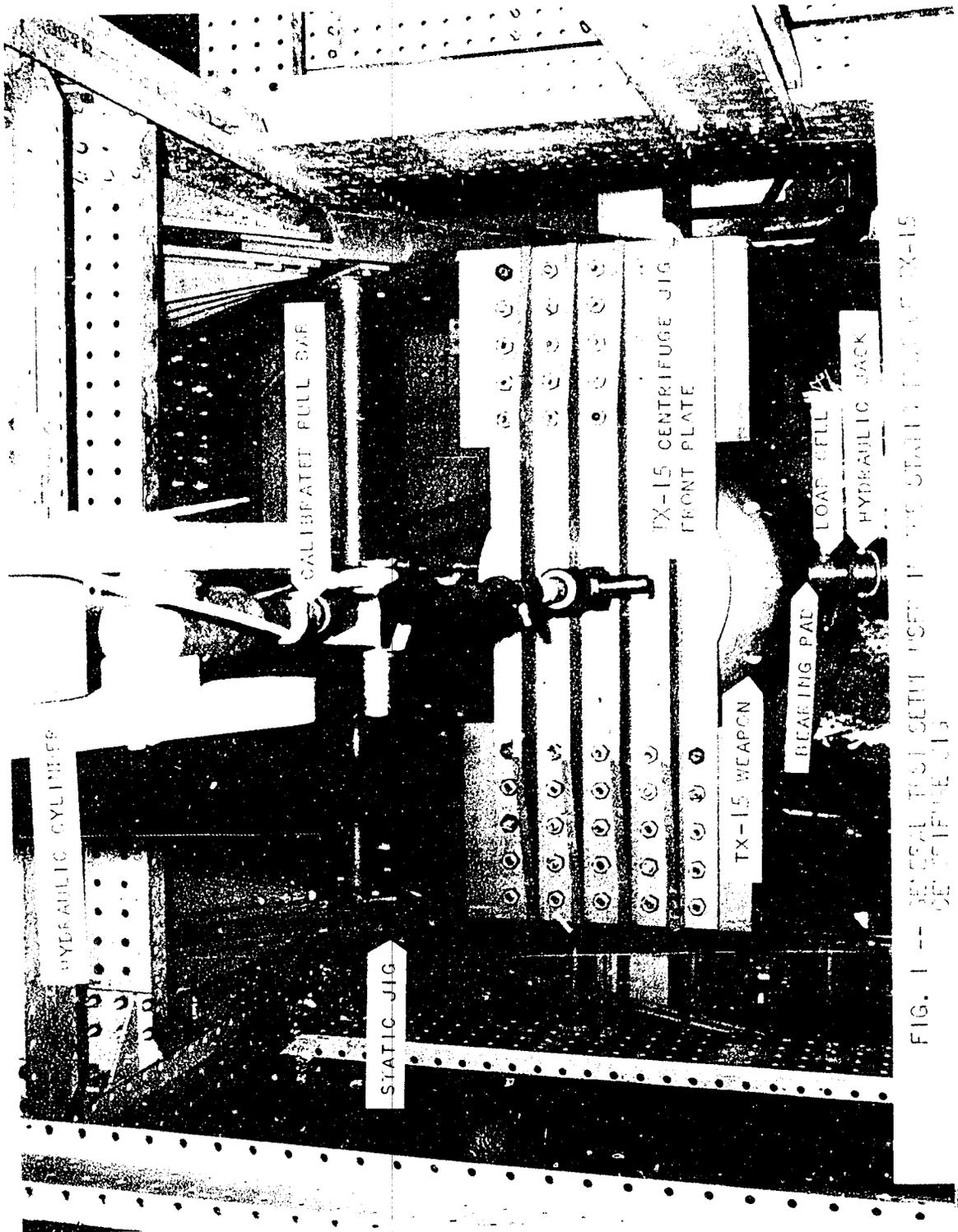


FIG. 1 -- GENERAL FULL SCALE TEST RIG FOR STATIC TEST OF TX-15 CENTRIFUGE JIG

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TABLE I

DEFLECTIONS IN THE STATIC TEST OF THE TX-15 CENTRIFUGE JIG

Per Cent Limit Load	Resultant Load in Pounds	Deflections in Inches			
		Dial Indicators			
		1	2	3	4
0	0	0	0	0	0
10	11,950	.006	.009	.007	.009
20	22,100	.013	.020	.016	.020
30	31,150	.025	.035	.036	.029
40	44,200	.034	.055	.061	.031
50	55,250	.050	.085	.083	.039
60	66,300	.067	.122	.121	.054
70	77,350	.085	.155	.155	.068
80	88,400	.101	.188	.199	.080
90	99,450	.145	.228	.234	.095
100	110,500	.186	.267	.265	.109
110	121,550	.217	.280	.289	.120
120	132,600	.246	.332	.311	.135
125	138,100	.264	.357	.324	.143
0		.053	.210	.113	.049

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