[redacted] APR 29 1960

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W-30, 3-2
Project No. T-16694
Case No. 608.01

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 6/15/98
Authority: ADD
Name: Brown
2nd Review Date: 6/17/98
Authority: ADD
Name: W C Layne
Determination (Circle Number(s))
1. Classification Retained
2. Classification Changed to: UNCL
3. Contains No DOE Classified Information
4. Complicate With:
5. Contains UCNI
6. Comments:
OK FOR OPENNET

TO: DISTRIBUTION

Re: Centrifuge Test of the W-30

A centrifuge test was conducted to confirm the structural adequacy of a W-30 with production type components. To qualify the jig and W-30 for testing with an H. E. warhead, two hardware runs were made with an inert warhead. For hardware Run 1, the W-30 warhead (inert) was mounted on the centrifuge as shown in Fig. 1 and accelerated at 37.5 g for 6 minutes (55 RPM). No visual structural damage resulted. This test was 25% over the load to be seen by the H. E. warhead assembly.

For hardware Run 2, the W-30 (inert) was mounted on the centrifuge as shown in Figs. 2 and 3 and accelerated to 19 g for 6 minutes (40 RPM). No visual structural damage resulted. This was also a 25% over test.

It was decided that H. E. Run 1 was to be conducted in the orientation as shown in Fig. 4. At 29 RPM of this run, the I.B.O.B. continuity loop indicated an open circuit. The loop remained open until the run had been completed, 30 g (52.2 RPM) for 6 minutes, and the reset buttons on the Mark 44 Mod 0's had been pushed. Pushing the reset buttons restored continuity in the I.B.O.B. loop. The acceleration of the components in the W-30 warhead may be computed from $g = 0.00034 n^2 r$ where g = acceleration in g's, n = RPM, and r = radius of rotation in ft. The C. G. of the W-30 was 32 ft. 4 inches from the center of rotation or r C. G. = 32 1/3 ft. No visible structural damage resulted from H. E. Run 1. The internal pressure dropped from 12.6 psig to 12.5 psig during the run.

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For H. E. Run 2, the W-30 warhead was mounted on the centrifuge as shown in Figs. 2 and 3, and accelerated at 15 g (35.5 RPM) for 6 minutes. No visual structural damage occurred during this run. The internal pressure dropped from 12.5 psig to 12.25 psig during the run.

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
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CLASSIFICATION CHANGED TO: U
AUTHORITY: W.C. Layne
PERSON CHANGING MARKING & DATE: Emelda Selph 6/30/98
RECORD ID: 98SN2496
PERSON VERIFYING MARKING & DATE: W C Layne 7/1/98
DATED: 6/17/98

Dale Buchanan
D. K. BUCHANAN - 1615-2

1613 Project Engineer: R. F. HARLAN - 1613-3
R. F. Harlan

Original Signed By
R. S. HOOPER

Approved by: R. S. HOOPER - 1613-3

1453

DKB:1615-2:ec

Enc: Figures 1 thru 4

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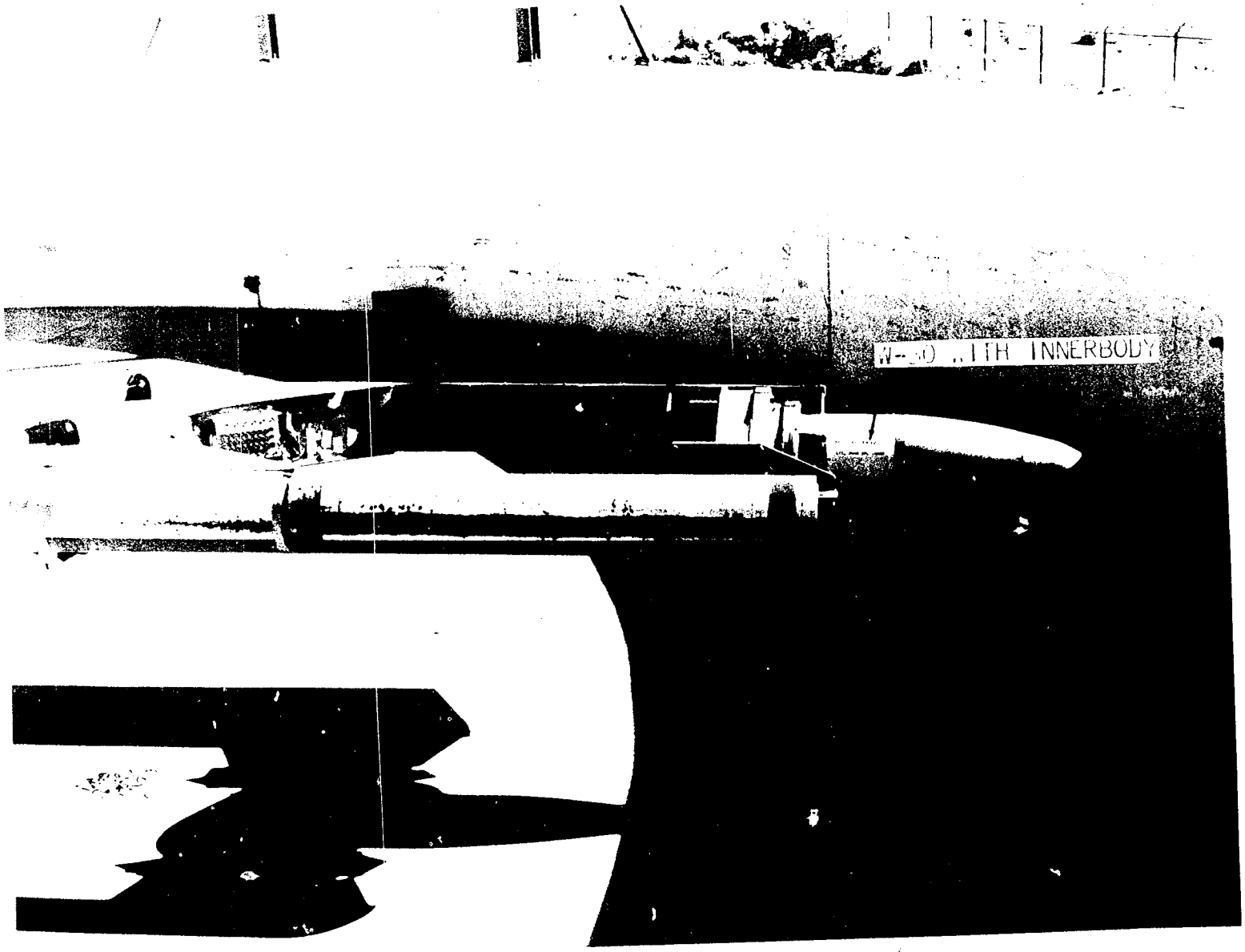

FIGURE 1 - SETUP FOR HARDWARE RUN 1 -----CENTRIFUGE TEST OF THE W-30

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FIGURE 2 - SETUP FOR HARDWARE RUN 2 AND H. E. RUN 2 (FRONT VIEW) -----CENTRIFUGE TEST OF THE W-30
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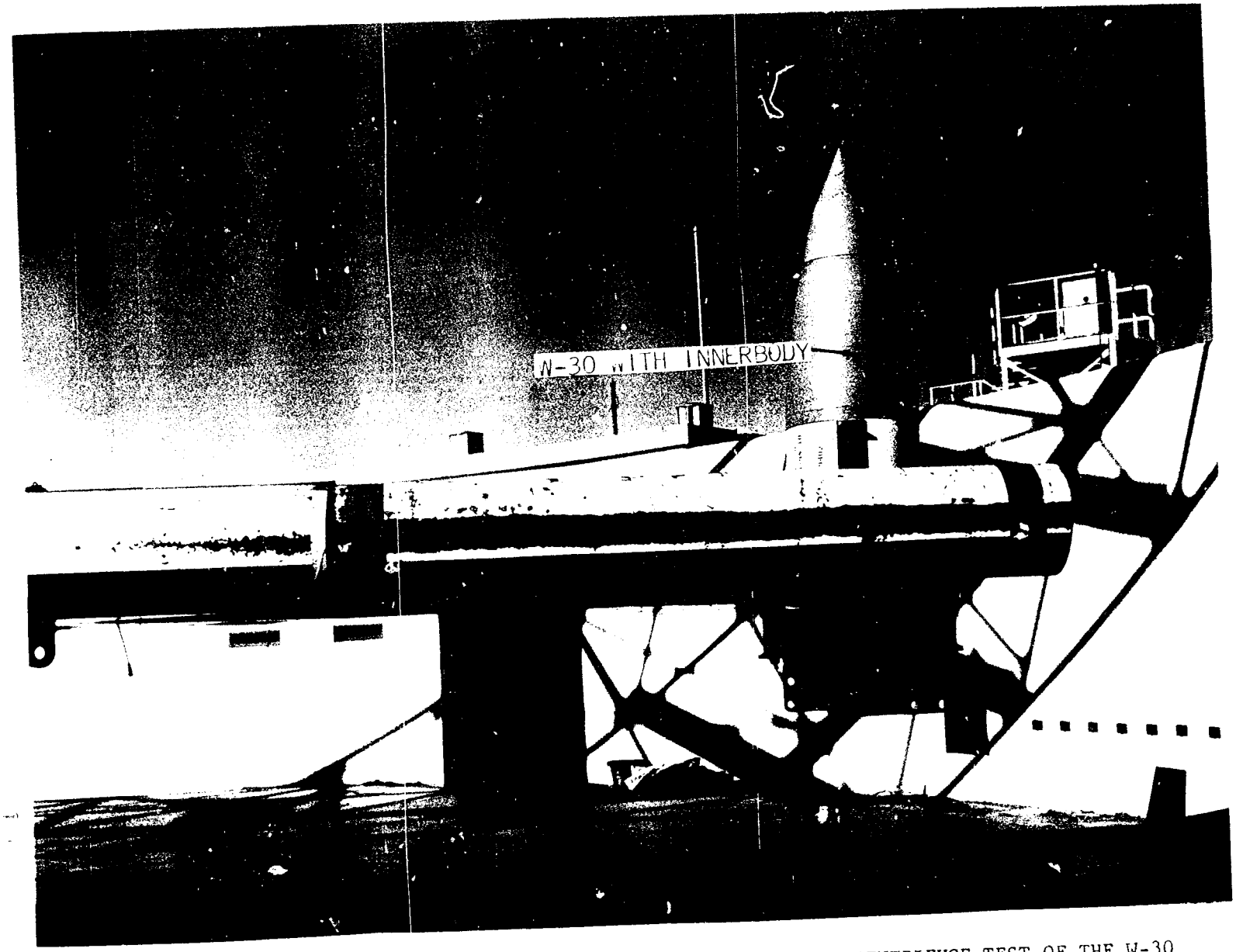

FIGURE 3 - SETUP FOR HARDWARE RUN 2 AND H. E RUN 2 (SIDE VIEW) ---- CENTRIFUGE TEST OF THE W-30
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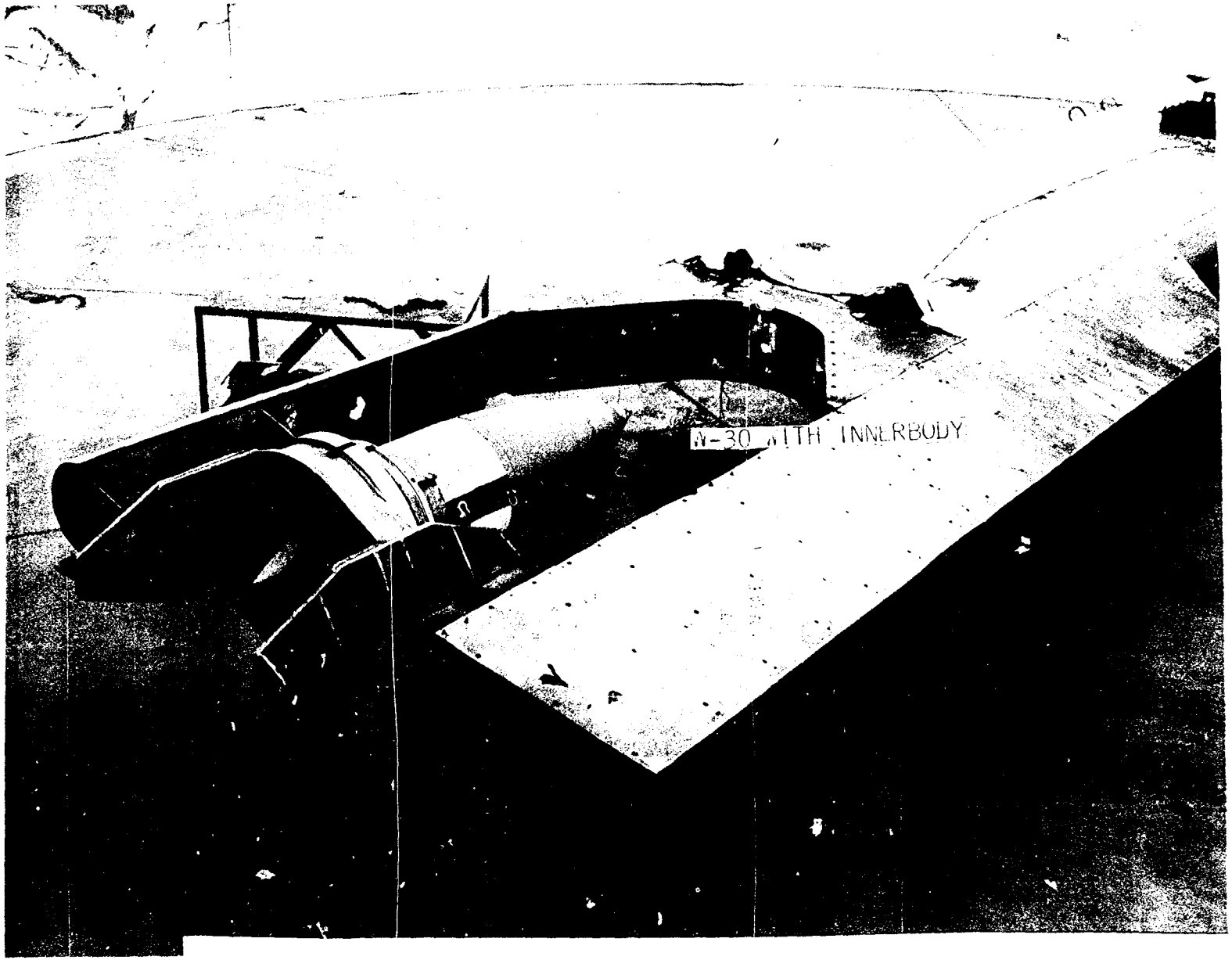

FIGURE 4 - ORIENTATION FOR P. E. RUN 1 ---- CENTRIFUGE TEST OF THE W-30 PROJECT NO. T-16694

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