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MAR 7 1960

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XW-49, 3-2
Project No. T-16303
Case No. 784.00
Ref. Sym: 1613(171)

TO: DISTRIBUTION

INVENTORIED

Re: Centrifuge Test of Telemetry Packages for XW-49 Flights

SEP 14 '65

3428-3

Object of Test

The object of this test was to qualify telemetry packages for the linear acceleration environments to be encountered during flight tests. It was requested in a Work Order Authorization from Mr. R. L. Feurifoy, 1245, to Mr. A. W. Regar, 1613, dated April 31, 1959. Mr. D. E. Hightower, 1245, and Mr. R. D. Robinett, 5253, were the consultants.

Summary of Test

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The following telemetry packages were tested on the hydraulic centrifuge: 49.14-6, 49.14-8, 49.14-9, 49.14-10, 49.14-11, and 49.14-12. Each test consisted of: 1. 20 g in the launch orientation; 2. 50 g in the 0°-180° lateral plane; 3. 50 g in the 90°-270° lateral plane; and 4. 100 g in the re-entry orientation. Each "g" load was held for 1 minute. No deleterious damage resulted from this test.

AUG 6 1984

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CENTRAL RECORD UNIT

Setup for Test

Figure 1 shows the setup for the launch orientation.

Figures 2 and 3 show the setup for the 0°-180° transverse orientation.

Figure 4 shows the setup for the 90°-270° transverse orientation.

Figure 5 shows the setup for the re-entry orientation.

STU packages tested:

49.14-6	49.14-10
49.14-9	49.14-11
49.14-8	49.14-12

Test equipment used:

Hydraulic centrifuge

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 5/20/98
Authority: ADD
Name: L Brown
2nd Review Date: 5-26-98
Authority: ADD
Name: WC Payne
Determination (Circle Number):
1. Classification Retained
2. Classification Changed to: UNCL
3. Contains No DOE Classified Information
4. Coordinate With:
5. Contains UCNI?
6. Comments:

FILE
XW-49
3-2

0438

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP

CLASSIFICATION CHANGED TO: U
Emelda Sejah 5/27/98
PERSON CHANGING MARKING & DATE
WC Payne 5-28-98
PERSON VERIFYING MARKING & DATE

AUTHORITY: W.C. Payne
RECORD ID: 98SN2115
DATED: 5/26/98

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Procedure

The following test was performed on each of the above mentioned STU packages.

The STU packages, one of which is shown in Figs. 6, 7 and 8, were mounted in the jig with the MC-1038 firing set as shown in Figs. 9, 10 and 11 and covered as shown in Fig. 12. For the first run (launch orientation) the assembly shown in Fig. 12 was mounted on the centrifuge as shown in Fig. 1. The assembly was then accelerated to 20 g and held there for 1 minute. For run 2 (lateral orientation I), the assembly was mounted on the centrifuge as shown in Figs. 2 and 3. The assembly was then accelerated to 50 g and held there for 1 minute. For run 3 (lateral orientation II) the assembly was mounted on the centrifuge as shown in Fig. 4. The assembly was then accelerated to 50 g and held there for 1 minute. For run 4 (re-entry orientation) the assembly was mounted on the centrifuge as shown in Fig. 5. The assembly was then accelerated to 100 g and held there for 1 minute.

Results

A fuze blew on the 100 g re-entry run during the test of the 49.14-6 package. No other failures occurred during testing.

Conclusions and Recommendations

The 49.14 telemetry packages tested were structurally adequate for the conditions to which they were tested.

Deb Buchanan
D. E. BUCHANAN - 1615-2

Bill Johnson
1613 Project Engineer: BILL JOHNSON - 1613-3

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

BEB:1615-2:ec

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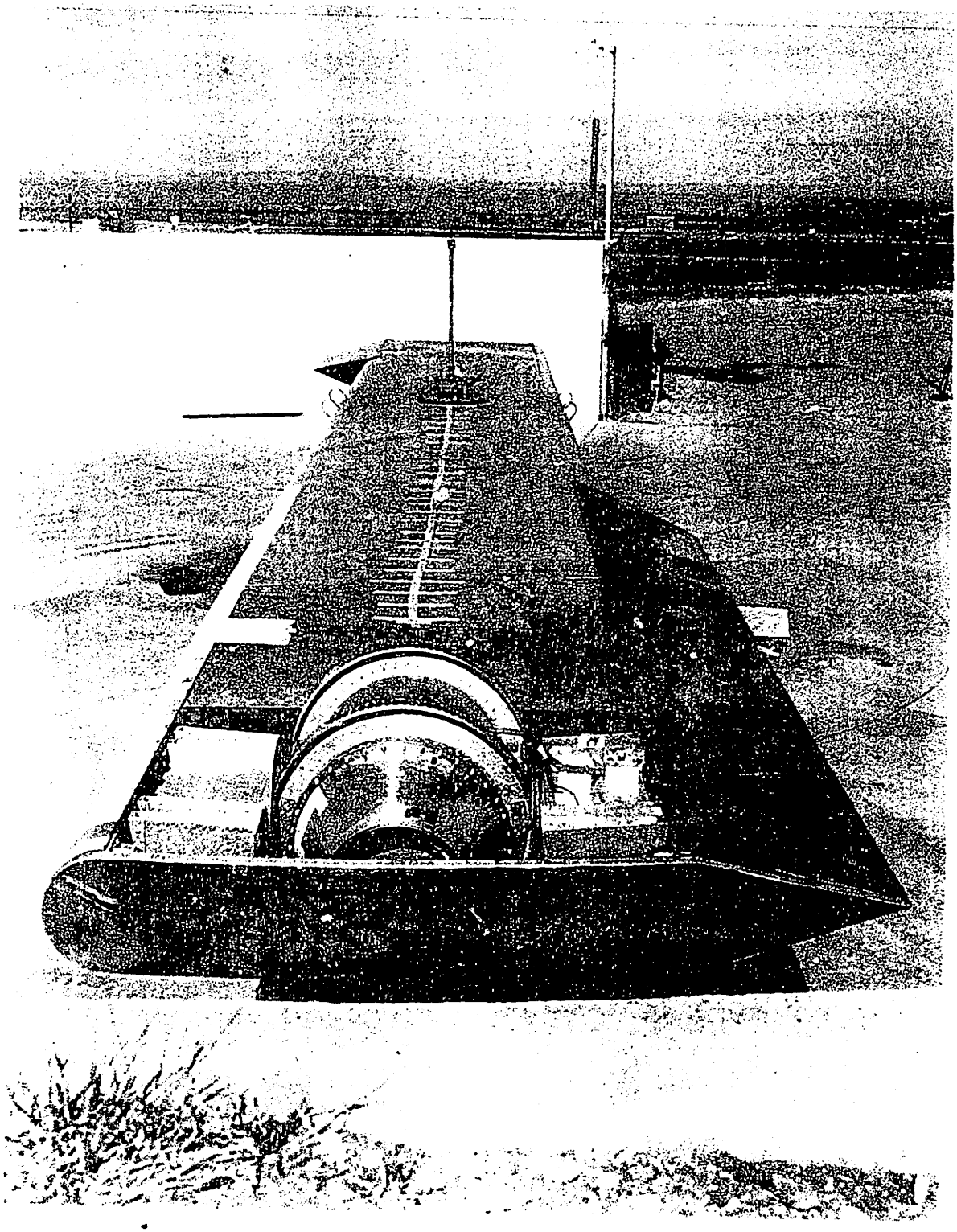

FIGURE 1 - SETUP FOR LAUNCH ORIENTATION -- CENTRIFUGE TEST OF TELEMETRY PACKAGE

PROJECT NO. T-16303
REF. SYM: 1613(171)

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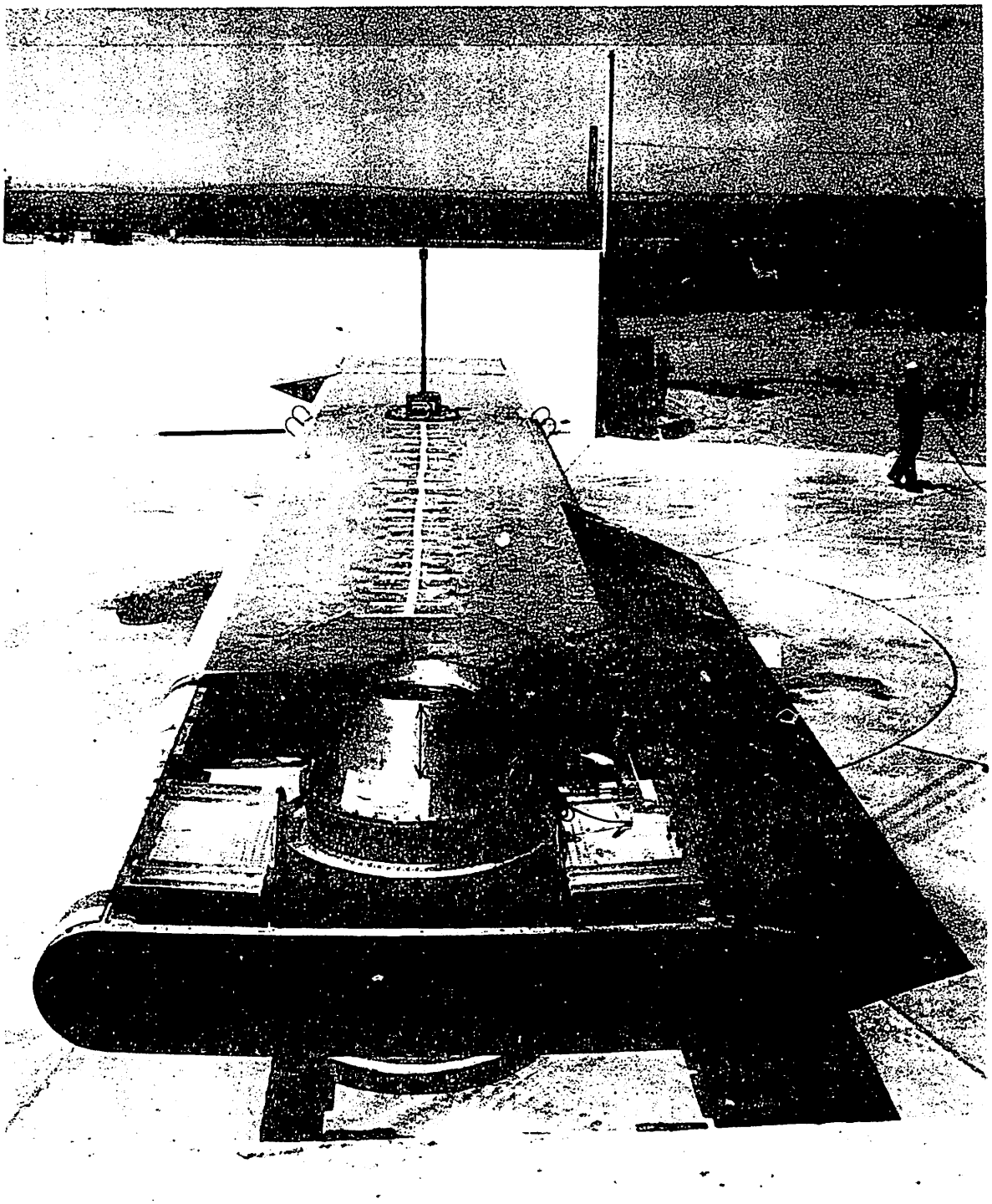

FIGURE 2 - SETUP FOR 0°-180° TRANSVERSE ORIENTATION - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

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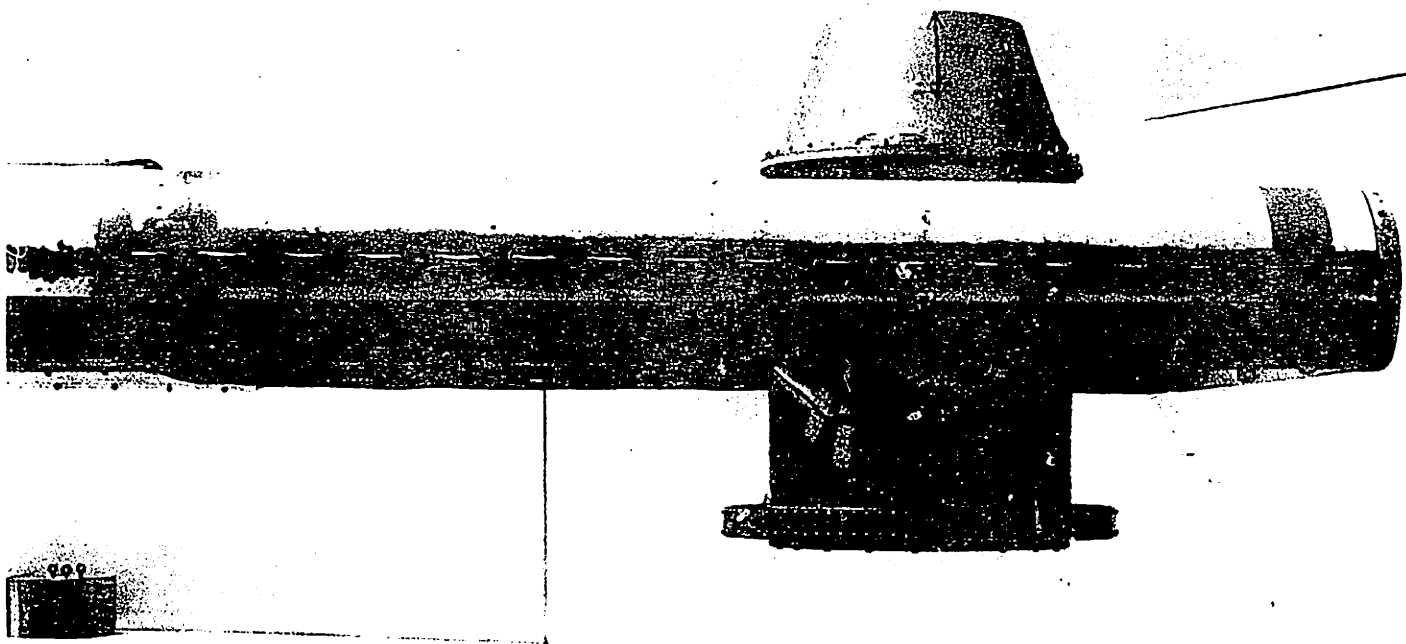

FIGURE 3 - SETUP FOR 0°-180° TRANSVERSE ORIENTATION - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T- 16303
REF. SYM: 1613(171)

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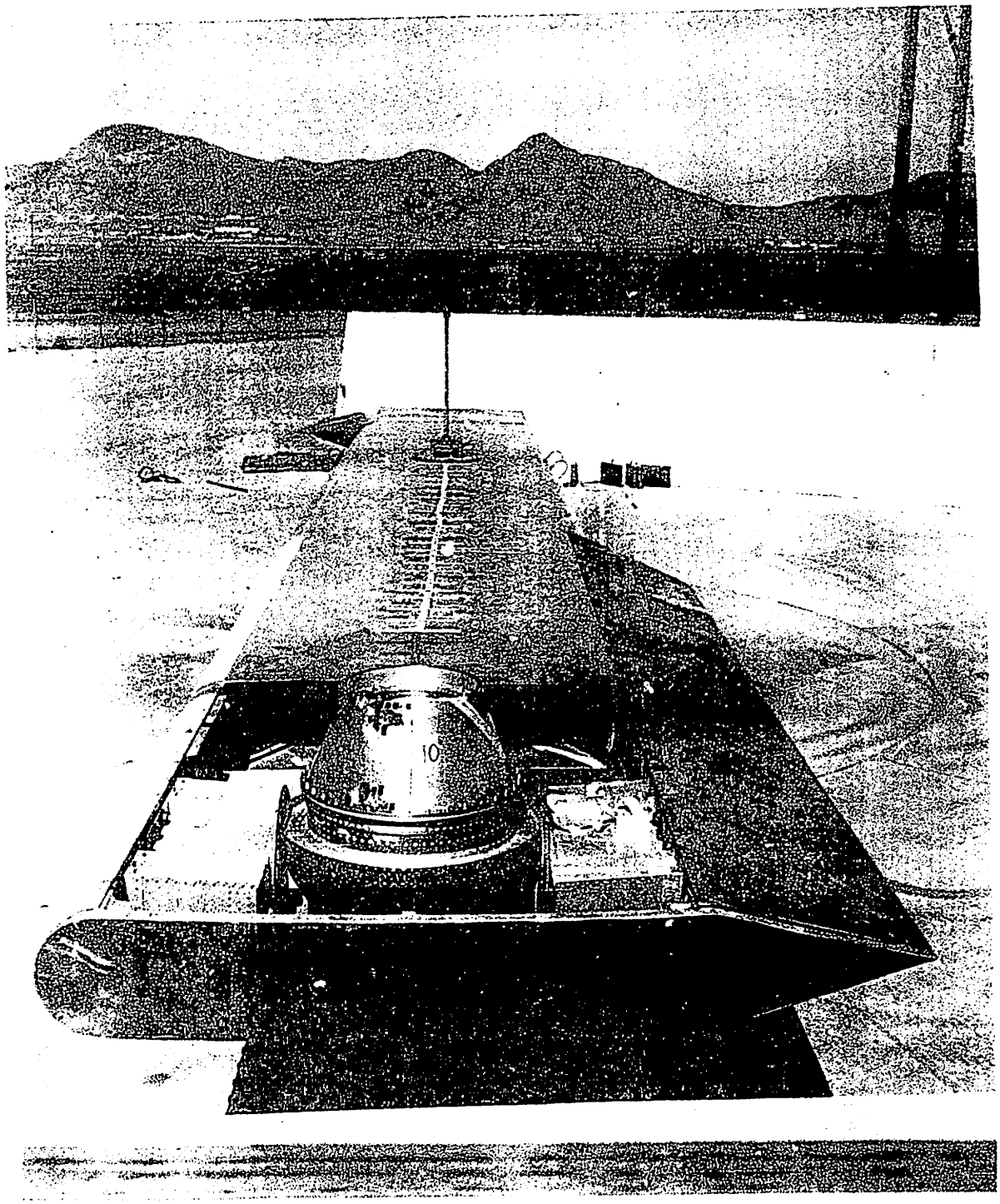

FIGURE 4 - SETUP FOR 90°-270° TRANSVERSE ORIENTATION - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

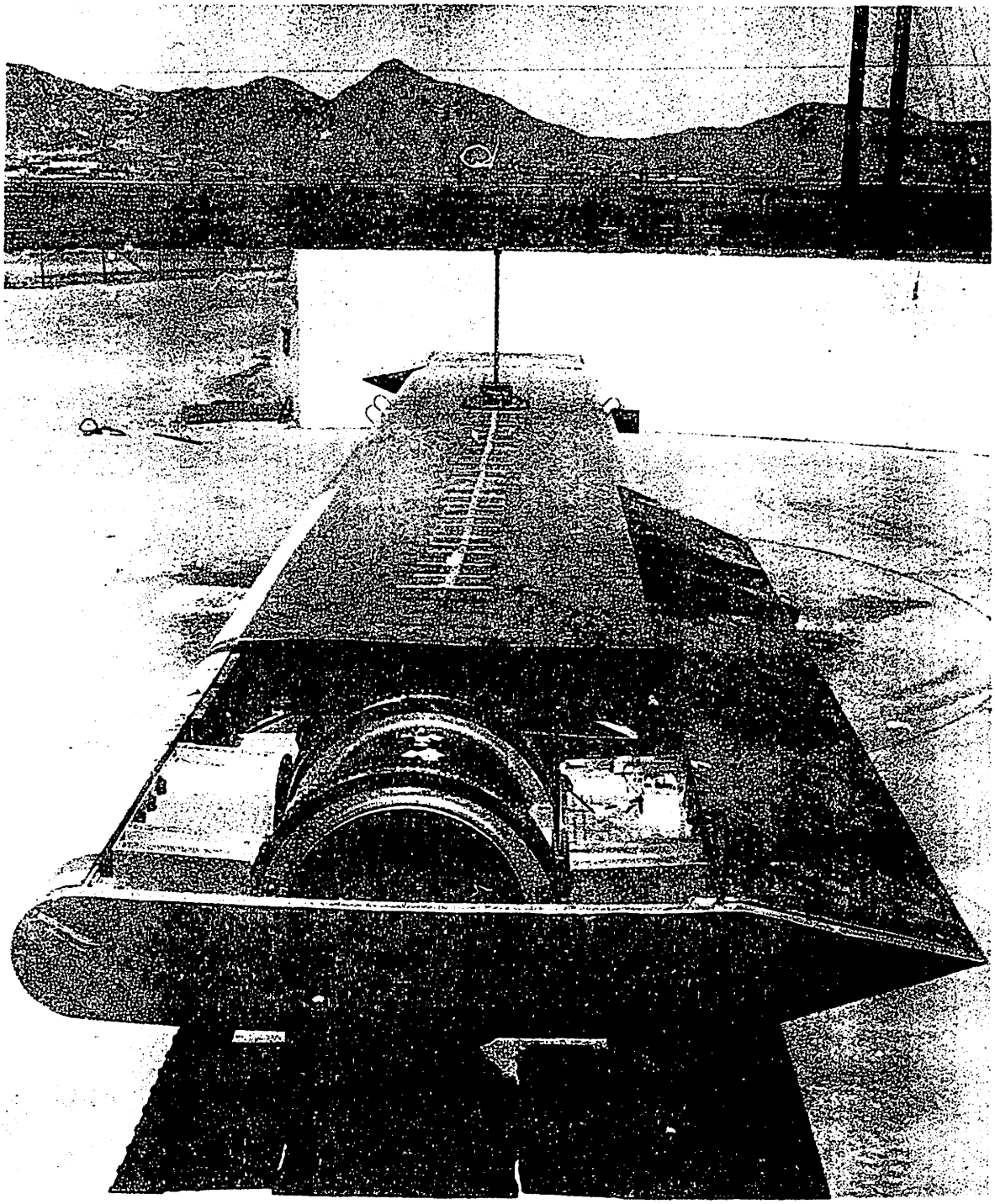

FIGURE 5 - SETUP FOR RE-ENTRY ORIENTATION -- CENTRIFUGE TEST OF TELEMETRY PACKAGES
PROJECT NO. T-16303
REF. SYM: 1613(171)

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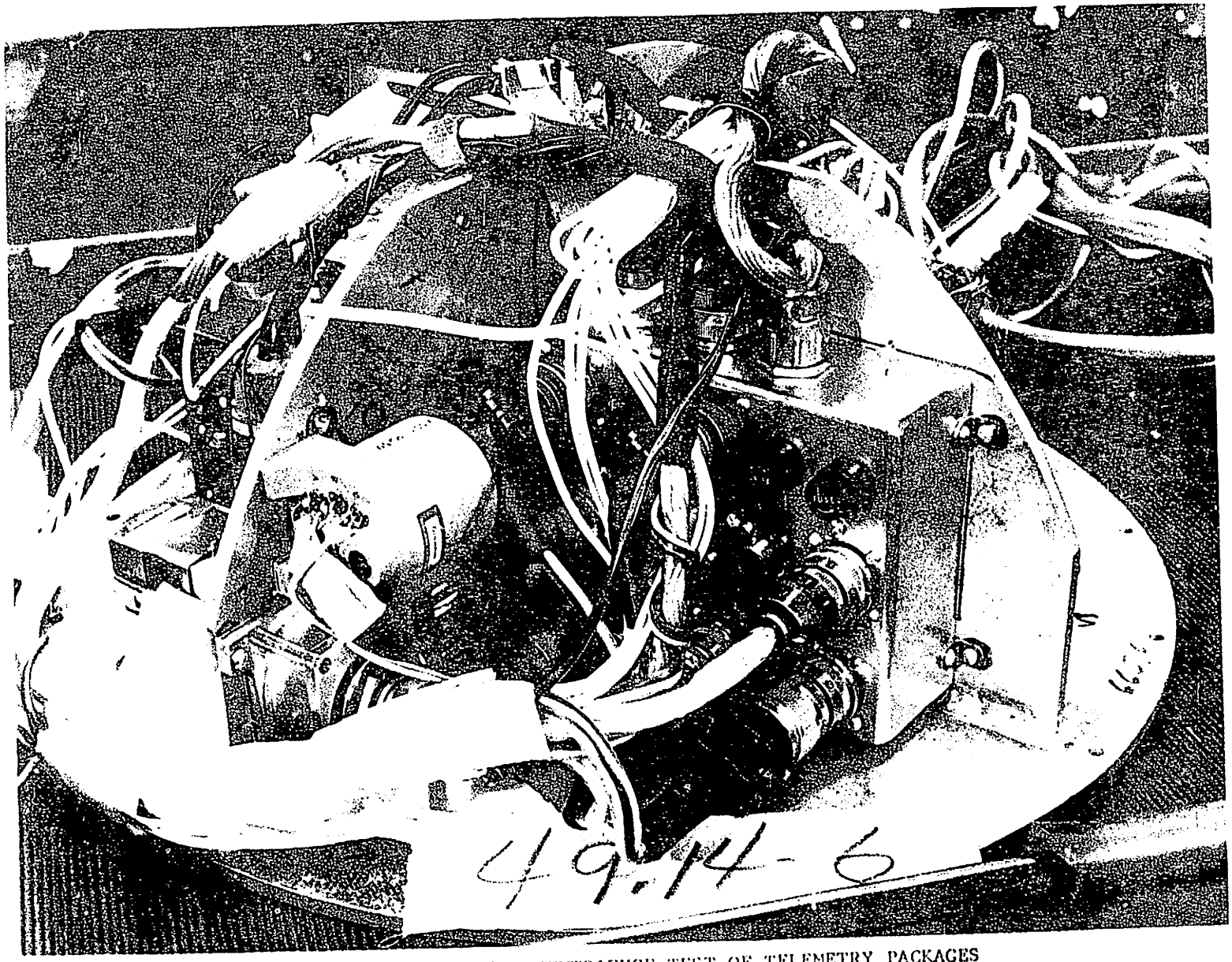

FIGURE 6 - STU PACKAGE 49.14-6 - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

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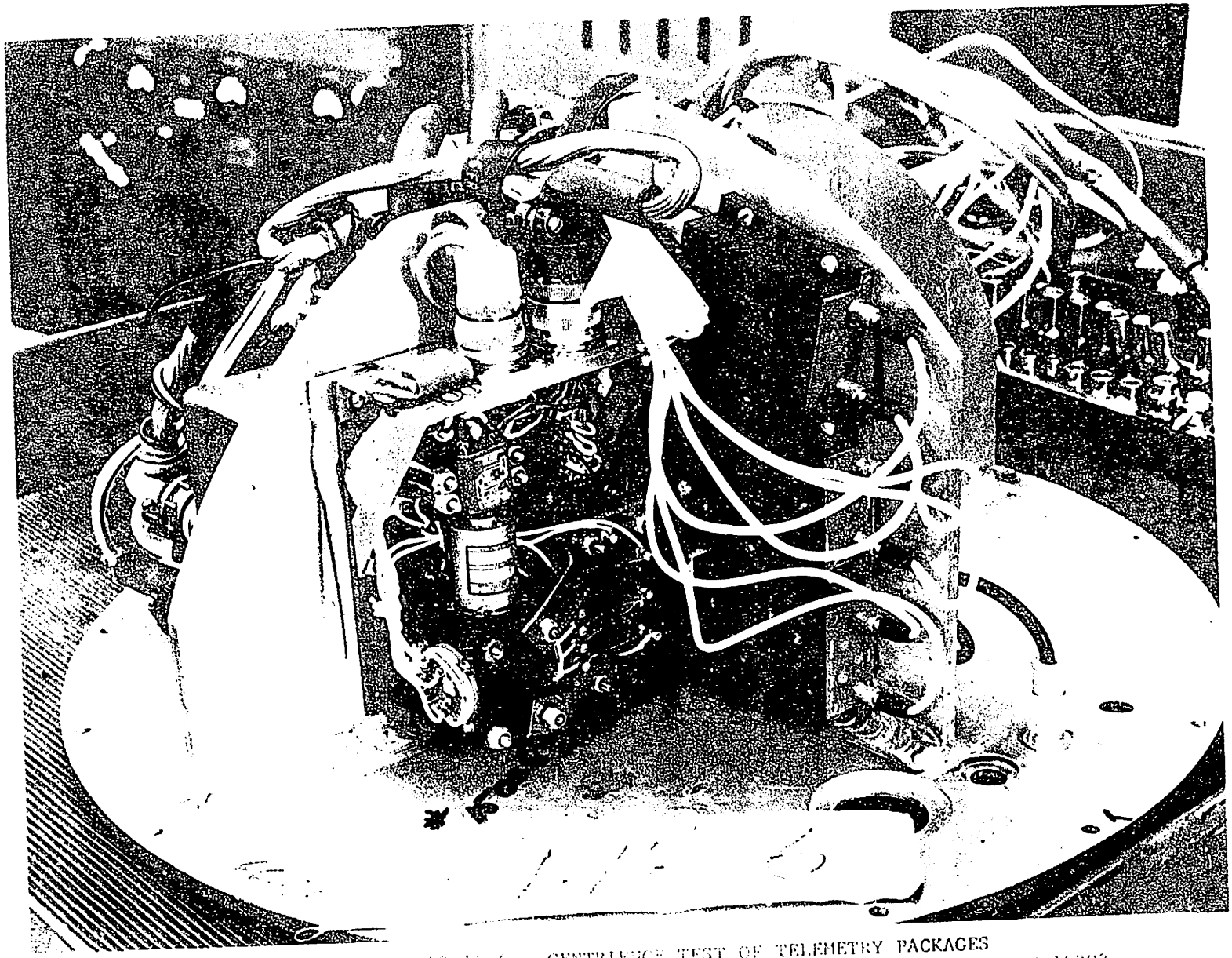

FIGURE 7 - TTU PACKAGE 42.11-6 - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

D 9-7126

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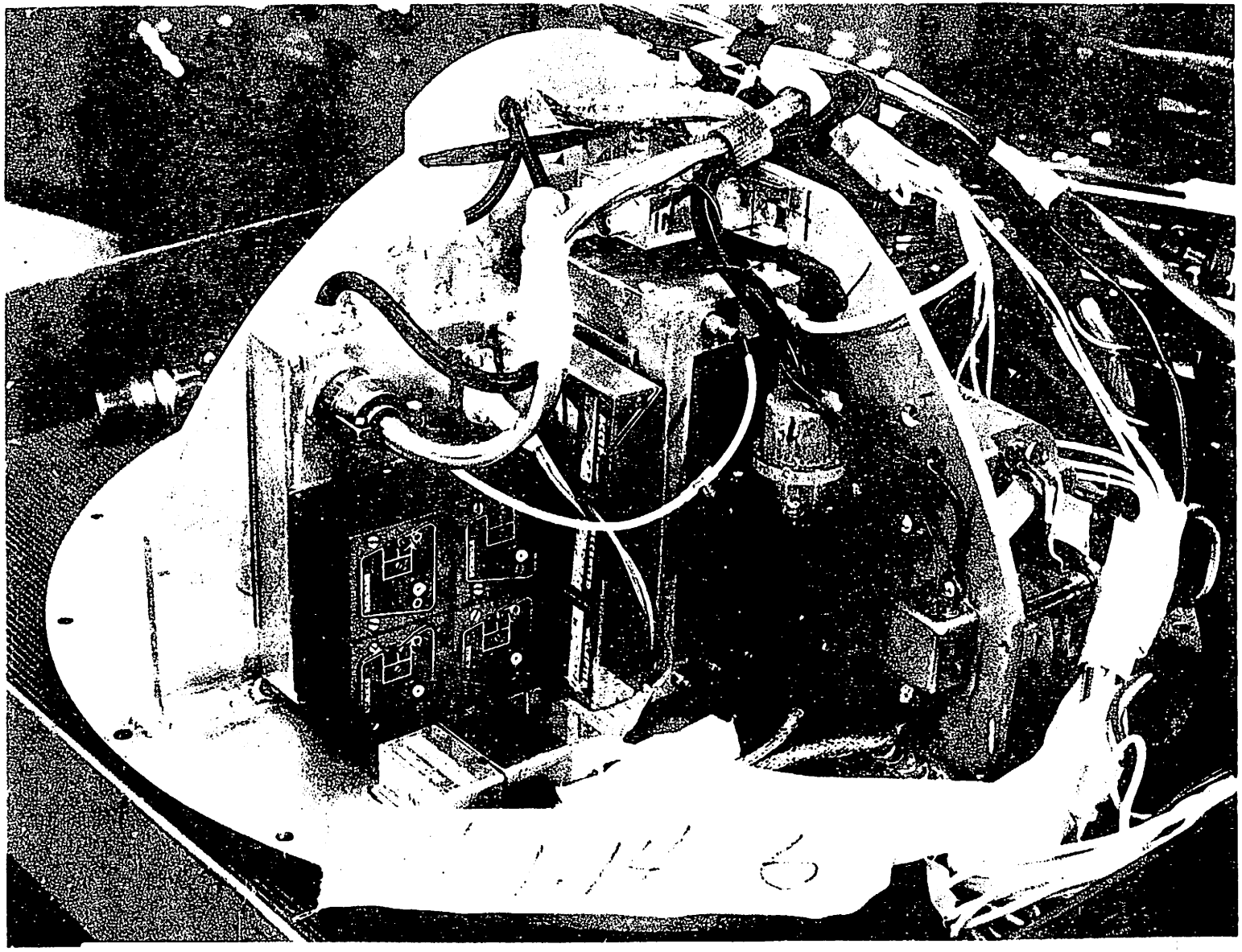

FIGURE 8 - STU PACKAGE 49.14-6 - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

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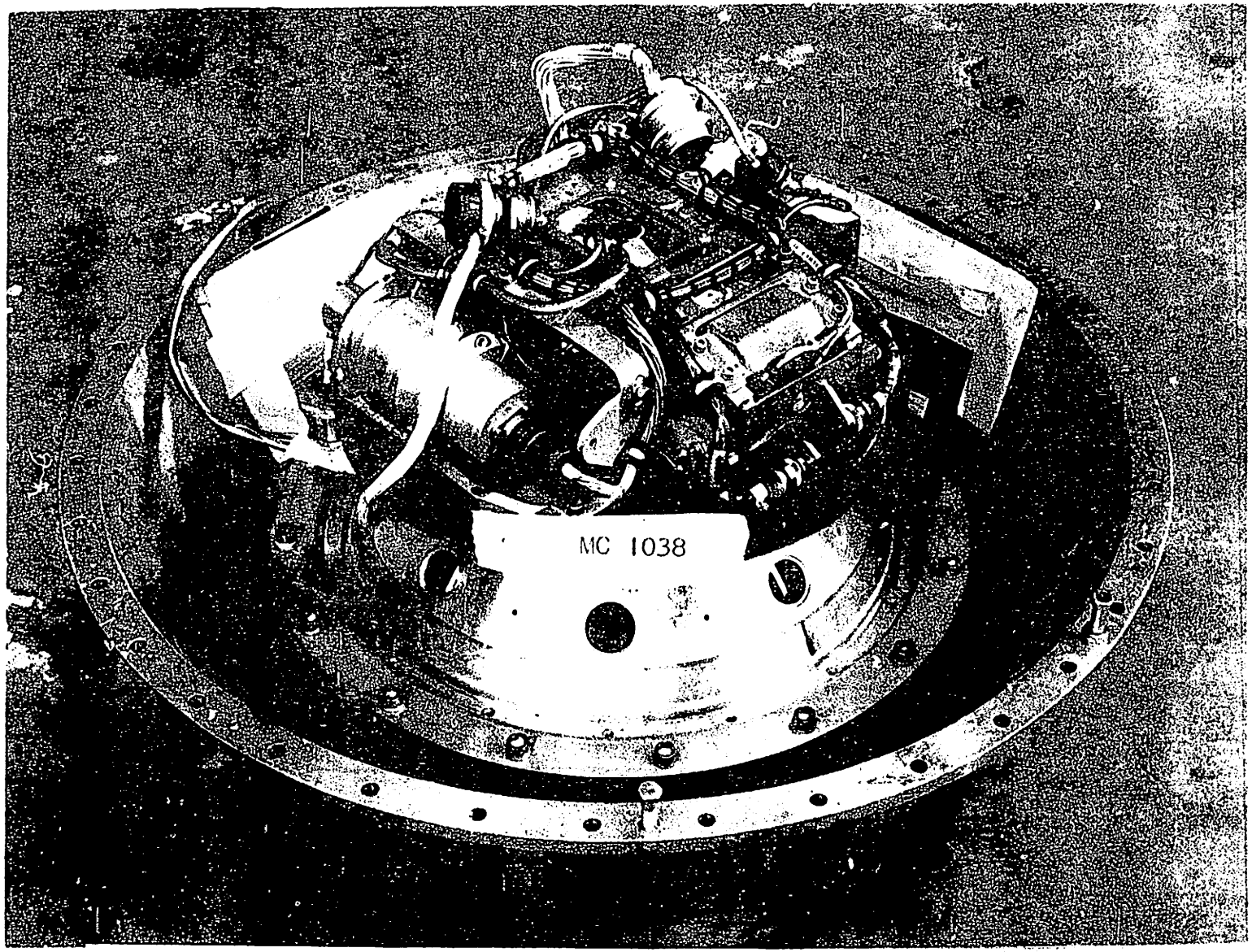

FIGURE 9 - STU PACKAGE 49.14-6 WITH THE MC-1038 FIRING SET - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

D 0 3404

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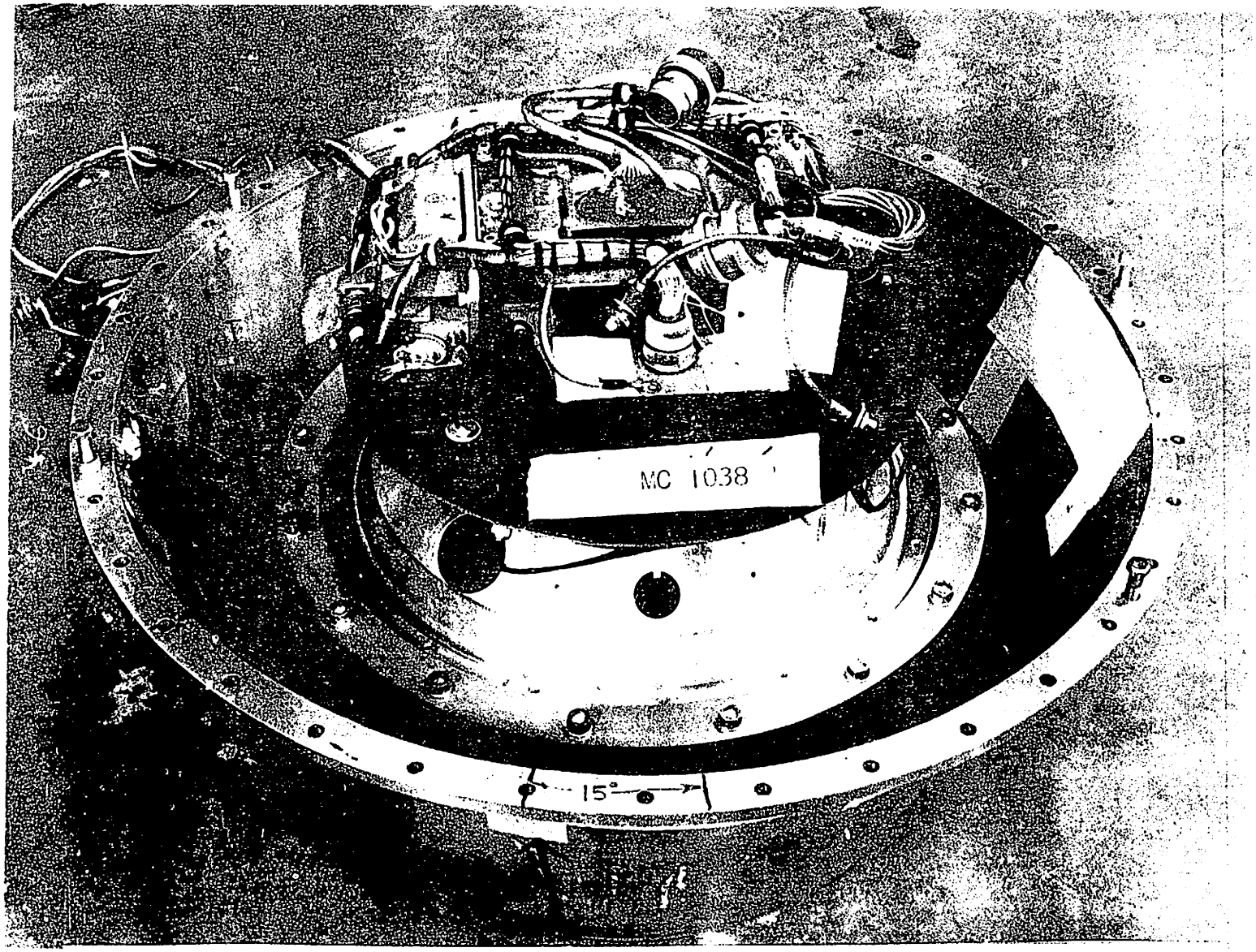

FIGURE 10 - STU PACKAGE 49.14-6 WITH MC-1038 FIRING SET -- CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

D 0 3402

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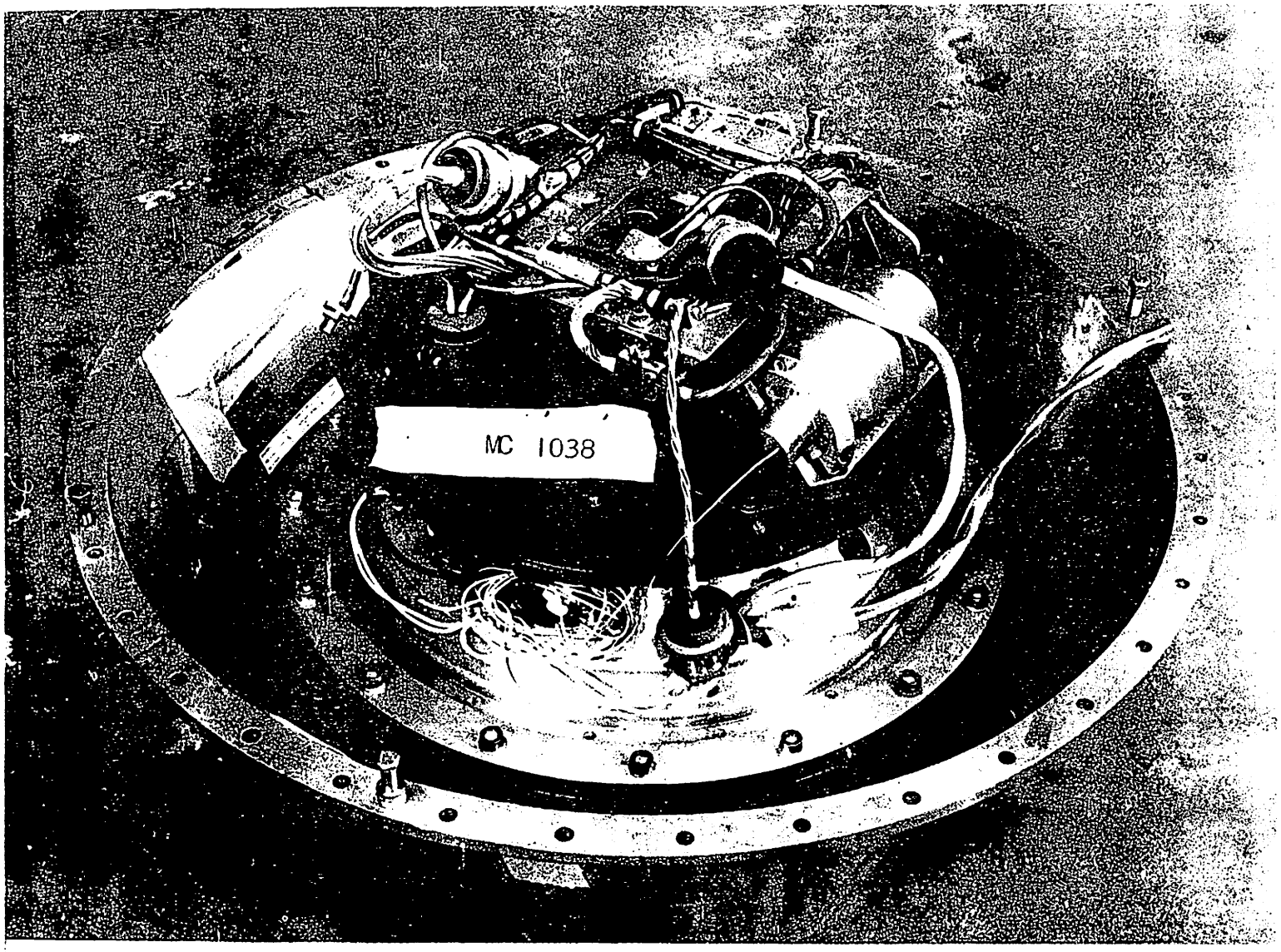

FIGURE 11 - STU PACKAGE 49.14-6 WITH MC-1038 FIRING SET - CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

D 0 3399

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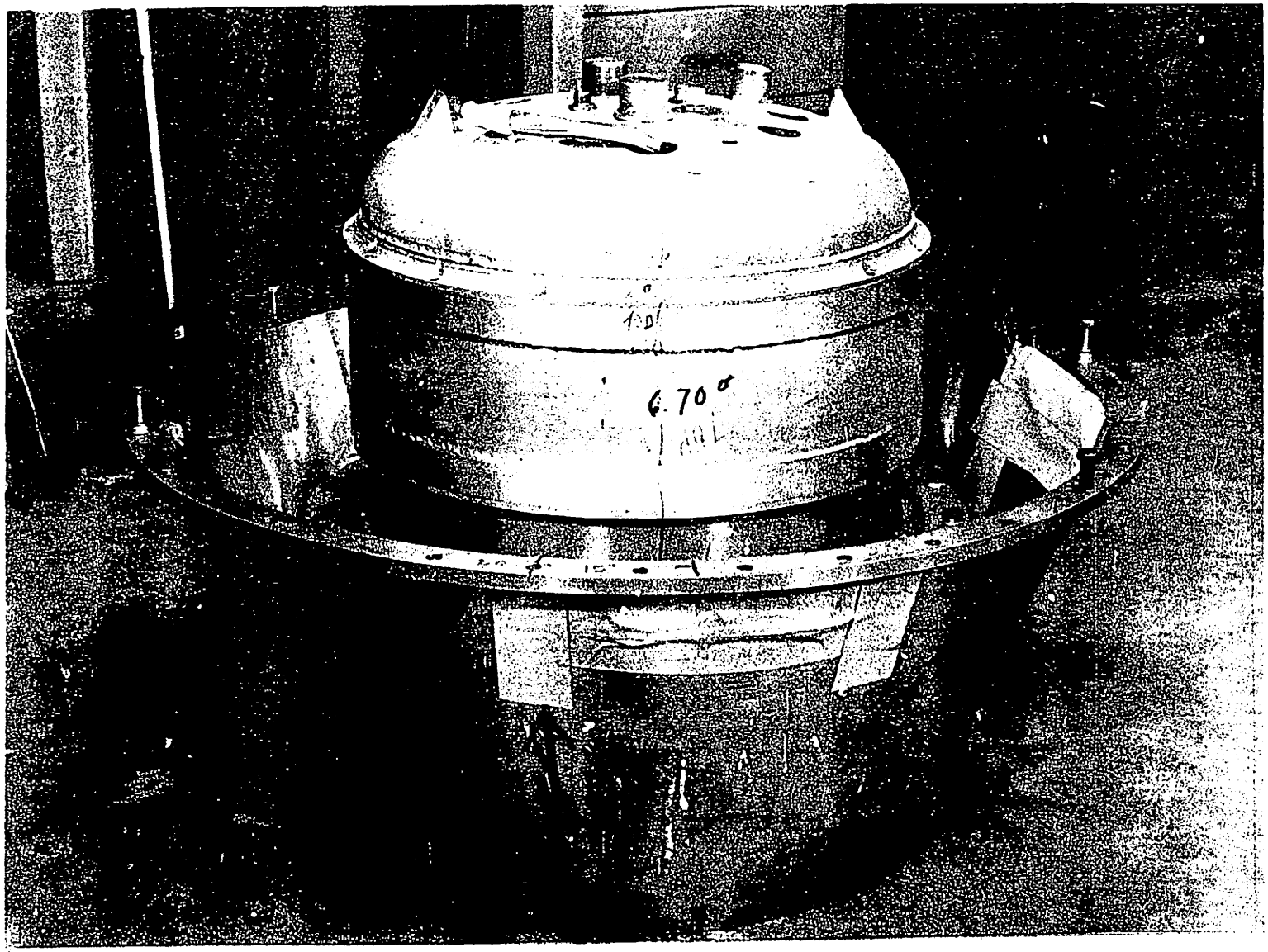

FIGURE 12 - STU PACKAGE 49.14-6 WITH MC-1038 FIRING SET READY FOR MOUNTING ON CENTRIFUGE -- CENTRIFUGE TEST OF TELEMETRY PACKAGES

PROJECT NO. T-16303
REF. SYM: 1613(171)

D 9- 7530

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