

JAN 23 1982

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| SANDIA SYSTEMATIC DECLASSIFICATION REVIEW | |
| 1 st Review Date: 8/26/98 | Determination (Circle Numbers): |
| Authority: ADD | 1. Classification Retained |
| Name: W. A. Sabrell | 2. Classification Changed to: U |
| 2 nd Review Date: 8/27/98 | 3. Contains No DOE Classified Information |
| Authority: ADD | 4. Coordinates With: |
| Name: W. A. Sabrell | 5. Contains UCAI: |
| | 6. Comments: <i>Declassified</i> |

File No: XW-38, 3-2
 T-18277
 Date Completed: 12-19-61

RECEIVED

JAN 23 1982

MR. D. M. BRUCE - 7182
 Attn: W. A. Sabrell

Re: Static Test of Centrifuge Jig Adapter Plates (U). CENTRAL RECORD FILE

Summary of Test

Two adapter plates (Dwg. Nos. N20670 and N20675) were designed to mount a centrifuge jig at an angle of 14 degrees with the horizontal. In order to qualify for use on the Area III hydraulic centrifuge, these adapters were statically tested to loads simulating 110 percent of inertia limit loads due to a resultant acceleration of 70g at an angle of 14 degrees with the jig (and warhead) centerline. The adapter plates withstood the loads with no indication of yielding or failure.

Object of Test

The object of this test was to certify two centrifuge jig adapter plates for use on the Area III hydraulic centrifuge. The adapter plates were designed to mount the jig frame and warhead at an angle of 14 degrees with the horizontal. Static test loads were to simulate 110 percent of limit inertia loads encountered for a longitudinal acceleration of 68g combined with a lateral acceleration of 17g, or 70g resultant acceleration at an angle of 14 degrees with the warhead centerline.

Details of the adapter plates are given in Dwg. Nos. N20670 and N20675; the jig frame, in Dwg. No. SK9(1245)4082. The warhead and warhead container were not needed in the static test setup.

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| RECORDED FILE |
| <i>DB</i> |
| XW 38 |
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Authorization for Test

The test was performed in accordance with Environmental Test Order No. T-18277, from Organization 7182 to Organization 7321, dated November 27, 1961. Mr. W. A. Sabrell, 7182-3, was test consultant.

Equipment and Instrumentation

A list of the loading equipment is given in Table I. No instrumentation was used.

Procedure

The centrifuge jig was mounted with the frame horizontal in the static test jig. This required the use of special fixtures mounted on the static jig at an angle of 14 degrees, so that when the adapter plates were bolted to these fixtures the frame would be in a horizontal position.

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|--|------------------------|
| SANDIA SYSTEMATIC DECLASSIFICATION REVIEW | |
| DOWNGRADING OR DECLASSIFICATION STAMP | |
| CLASSIFICATION CHANGED TO: U | AUTHORITY: W. C. Layne |
| PERSON CHANGING MARKING & DATE: Emelda Selan 9/28/98 | RECORD ID: 985N3848 |
| PERSON VERIFYING MARKING & DATE: Carmela Salgado 9/13/98 | DATED: 8/27/98 |

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Mr. D. M. Bruce, 7182

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Locations of the loads are shown in Figure 1. The two P1 loads were applied by yokes around the outboard cross member of the jig frame. The P2 loads were applied to the inboard ends of the frame longitudinal members, and the P3 loads were applied to the adapter plates. The P4 and P5 loads were vertical loads on the frame, while the P6 loads were applied vertically to the adapter plates. Figures 2, 3, and 4 are views of the setup.

All loads were applied simultaneously in increments of 20 percent of limit up to 80 percent, then in increments of 10 percent of limit up to the maximum of 110 percent. The maximum loads were maintained for a short time before release in order to check for possible failing. A list of the limit and maximum loads is given in Table II.

Results

The centrifuge jig adapter plates withstood 110 percent of the expected inertia limit loads with no indication of yielding or failure.

W. M. Sigmon

W. M. SIGMON - 7322-1

J. E. Bear

7321 Test Project Engineer: J. E. BEAR - 7321-5

Approved By: *R. S. Hooper* - 7321-5

WMS:7322-1:er

Encls: Figures 1 thru 4
Tables I & II

- Copy to:
- J. H. Wiesen, 1442
- D. S. Bliss, 2344
- E. H. Copeland, 7321
- C. L. Johnson, 7523
- R. K. Smeltzer, 3421-3

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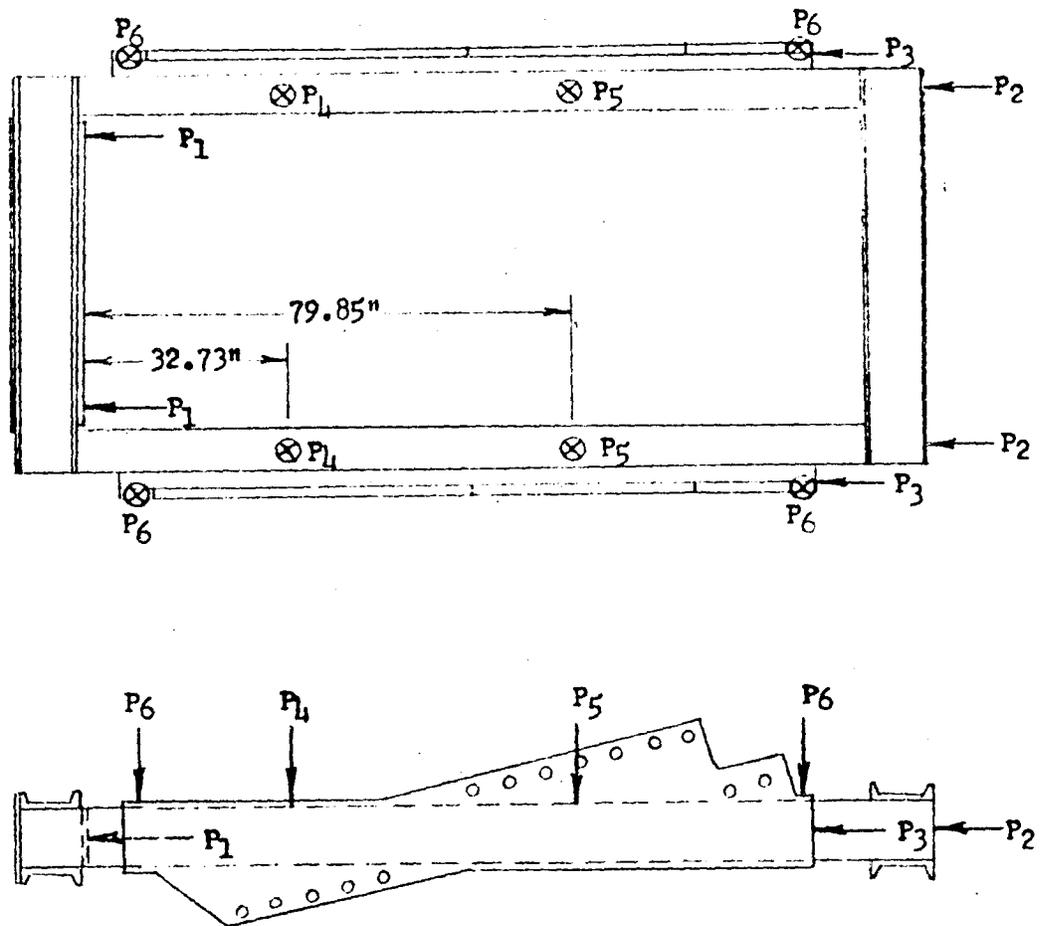


FIG. 1. LOCATIONS OF LOADS -- STATIC TEST OF CENTRIFUGE ADAPTER PLATES.

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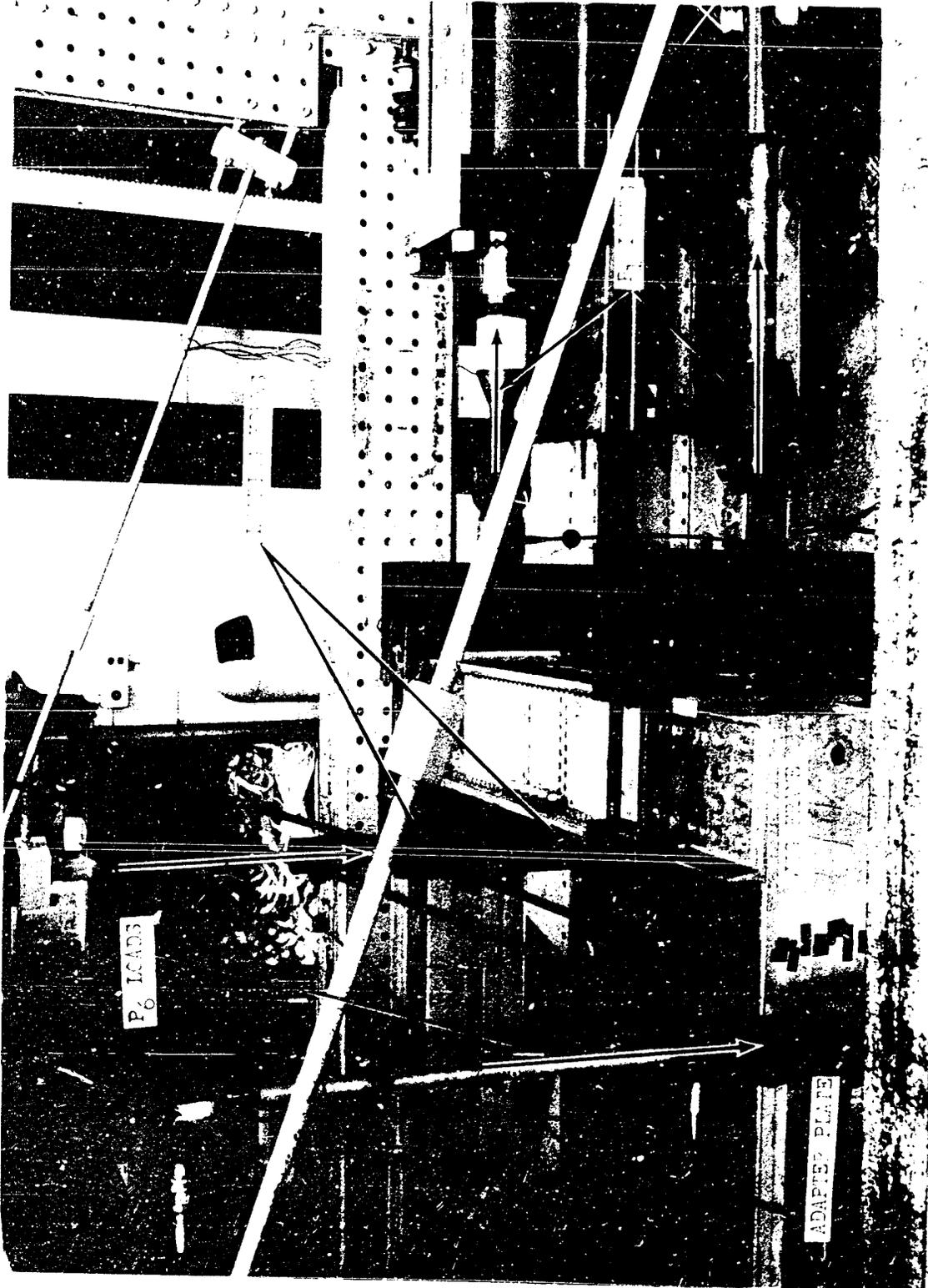


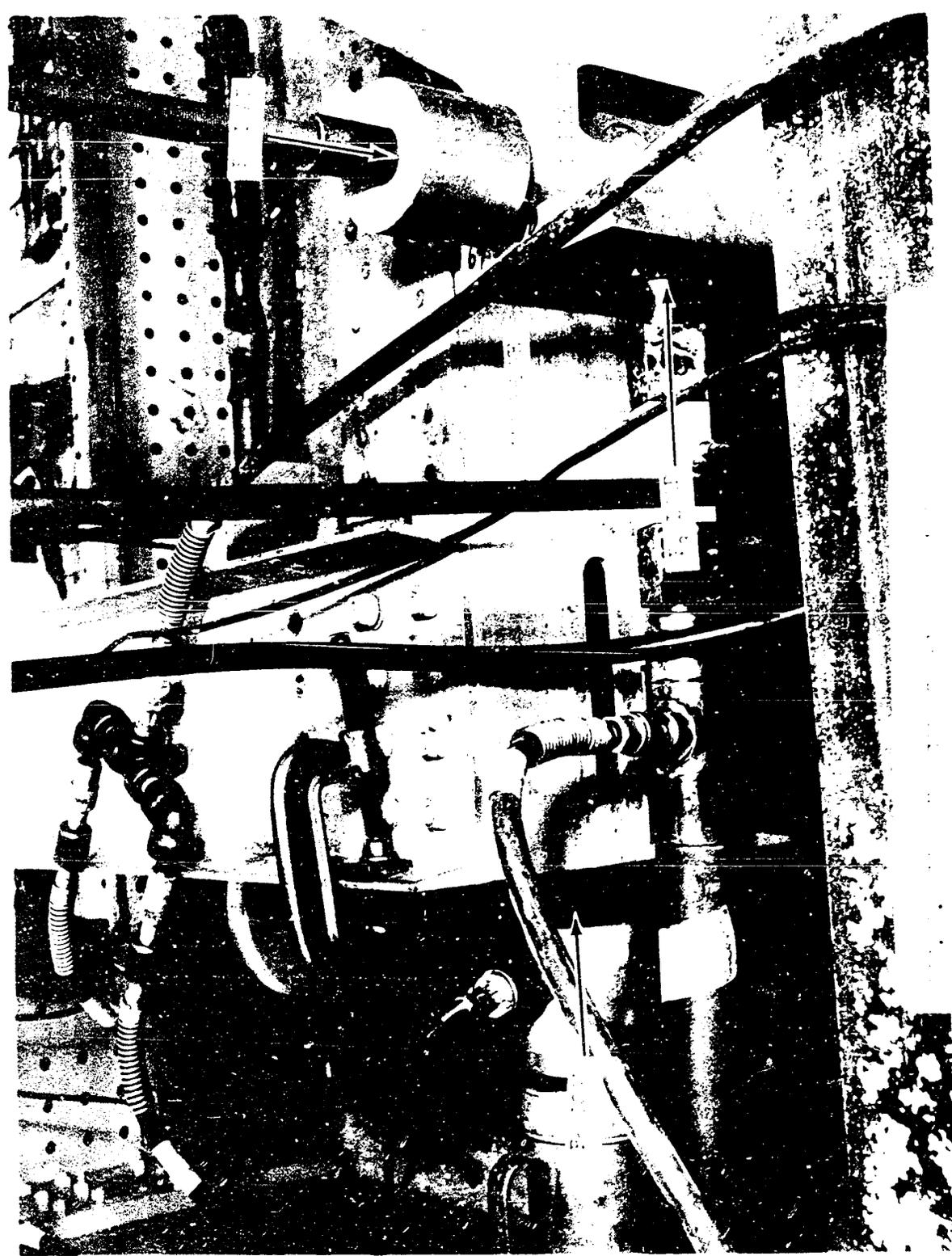
FIG. 2. ADAPTER PLATE AND LEADS.

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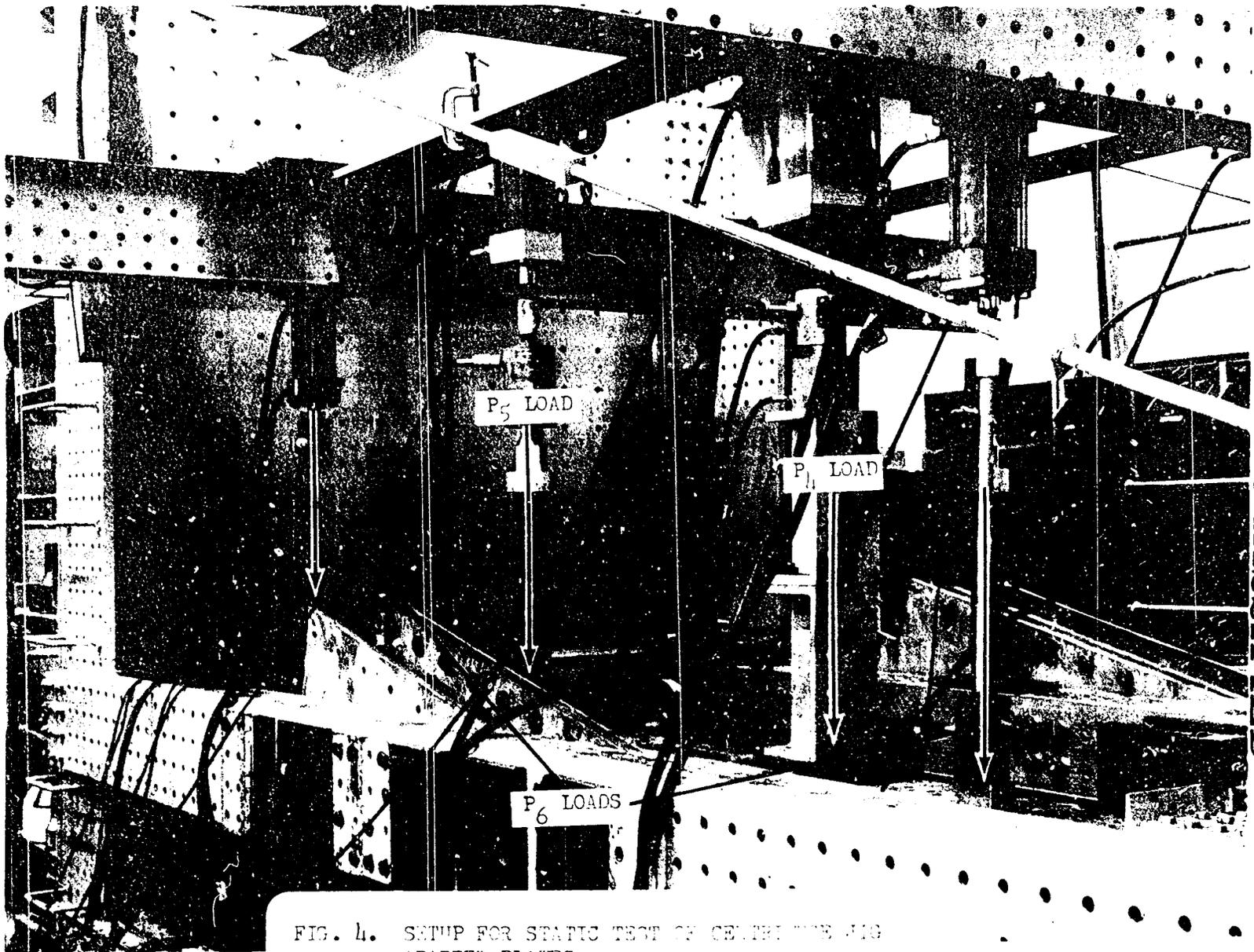
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FIG. 4. SETUP FOR STATIC TEST OF CENTRAL TUBE JIG ADAPTER PLATES.

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The written material - printing
on pages # 336 through # 337 is
of inferior quality.

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3428-1.

TABLE I
LOADING EQUIPMENT
Static Test of Gun Muzzle and Muzzle Plates

7-13277

| LOAD DESIGNATION | TYPE OF MULLER | LOAD CAPACITY | LOAD CELL SERIAL NO. | L. M. CHANNEL NO. OR INDICATOR NO. |
|------------------|----------------|---------------|----------------------|------------------------------------|
| P-1 | 12" MILLER | *200,000 | 2-A | 11 |
| P-2 | 12" MILLER | *200,000 | 3-B | 12 |
| P-2-1 | 30T SIMPLEX | 50,000 | 1114 | 443651 |
| P-2-2 | 30T SIMPLEX | 50,000 | 1115 | 391905 |
| P-3-1 | 7T BENCH MARK | **80,000 | 8 | U-92495 |
| P-3-2 | 7T BENCH MARK | **80,000 | 10 | 79870 |
| P-4-1 | 6" MILLER | 50,000 | 1115 | 6 |
| P-4-2 | 6" MILLER | 50,000 | 1117 | 7 |
| P-5-1 | 4" MILLER | 20,000 | 2246 | 4 |
| P-5-2 | 4" MILLER | 20,000 | 2392 | 5 |
| P-6-1 | 3 1/2" MILLER | 10,000 | 11764 | 1 |
| P-6-2 | 2 1/2" MILLER | 10,000 | 14621 | 2 |
| P-6-3 | 3 1/2" MILLER | 10,000 | 11693 | 3 |
| P-6-4 | 4" MILLER | 10,000 | 13690 | 9 |

* LOAD LIMITS
** BOYD MULLER SERIAL

TABLE II

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LIMIT TO MAXIMUM LOADS
STATE TEST OF CENTRIFUGAL SIG ALUMINUM PLATES

| LOAD DESIGNATION | LIMIT LOAD (POUNDS) | MAX. LOAD - 110% LIMIT (POUNDS) |
|------------------|---------------------|---------------------------------|
| P1-1 | 155 322 | 171 404 |
| P1-2 | 155 822 | 171 404 |
| P2-1 | 34 612 | 38 073 |
| P2-2 | 34 612 | 38 073 |
| P3-1 | 26 044 | 28 648 |
| P3-2 | 26 044 | 28 648 |
| P4-1 | 32 175 | 35 392 |
| P4-2 | 32 175 | 35 392 |
| P5-1 | 15 524 | 17 076 |
| P5-2 | 15 524 | 17 076 |
| P6-1 | 3255 | 3581 |
| P6-2 | 3255 | 3581 |
| P6-3 | 3255 | 3581 |
| P6-4 | 3255 | 3581 |