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JUL 8 1959

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TX-36, 3-2
Project No. T-16100
Case No. 608.01
Completed 5-23-59

00129

TO: DISTRIBUTION

Re: Dynamic Pullout Cover Test with Gasket

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 8/25/98
Authority: ADD
Name: [illegible]
2nd Review Date: 8/27/98
Authority: ADD
Name: W. Layne
Determination (Circle Numbers):
1. Classification Retained
2. Classification Changed to: U
3. Contains No DOE Classified Information
4. Coordinate With:
5. Contains UCNI?
6. Comments:

Object of Test

The object of this test was to determine the total force and the force at each of the four pull points that was necessary to remove the pullout cover (fastened with a silicone sponge) from the B-36 afterbody. It was also required to determine the manner in which the gasket failed.

Summary

The maximum total force required to remove the pullout cover was 1156 pounds. The forces at the four points at this instant were: 300 pounds at point 1, 336 pounds at point 2, 268 pounds at point 3 and 252 pounds at point 4 (Figure 1).

High-speed motion pictures of the pulloff operation indicated that the gasket failed first at the end of the cover near points 2 and 3.

Authorization for Test

This test was requested in a Work Order Authorization from H. F. Howard, 1218-2, to A. W. Reger, 1613, dated March 4, 1959. Mr. J. L. Irwin, 1218-2, was the consultant.

Procedure

The pullout cover was fastened by a silicone sponge gasket to a plate, simulating the shape of the B-36 afterbody. Four calibrated stress links, instrumented with strain gages, were fastened to the four pull points on the pullout cover. These stress links were fastened to a pull plate by four cables. This pull plate was designed so that theoretically the single load on the plate from the pull rod would be distributed equally to each of the four pull points. The four stress links were not preloaded before the test. The pull plate was parallel to the afterbody plate before the pullout cover started to move. This entire assembly was mounted on the large impact hammer.

The pendulum of the impact hammer was raised to a height which would give an approximate initial velocity of 4.5 fps to the pendulum when the pull started. The pendulum applied the load to the pull rod when the pendulum path was

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CENTRAL FILE
TX-36
3-2

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP
CLASSIFICATION CHANGED TO: U
AUTHORITY: W.C. Layne
Emelda Selph 9/8/98
PERSON CHANGING MARKING & DATE
RECORD ID: 98SN3897
W Layne 9-9-98
PERSON VERIFYING MARKING & DATE
DATED: 8/27/98

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tangent to the line of travel of the pull plate and pullout cover.

All four strain gages were recorded at impact (Figure 2).

R. O. Brooks
R. O. BROOKS - 1612-3

C. David McGinnis
1613 Project Engineer: C. DAVID MCGINNIS - 1613-3

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

CDM:1613-3:ec

Enc: Figures 1 and 2

Copy to:

P. F. Jones, 1218
Attn: J. L. Irwin
W. A. Gardner, 1610
J. M. Wiesen, 1592
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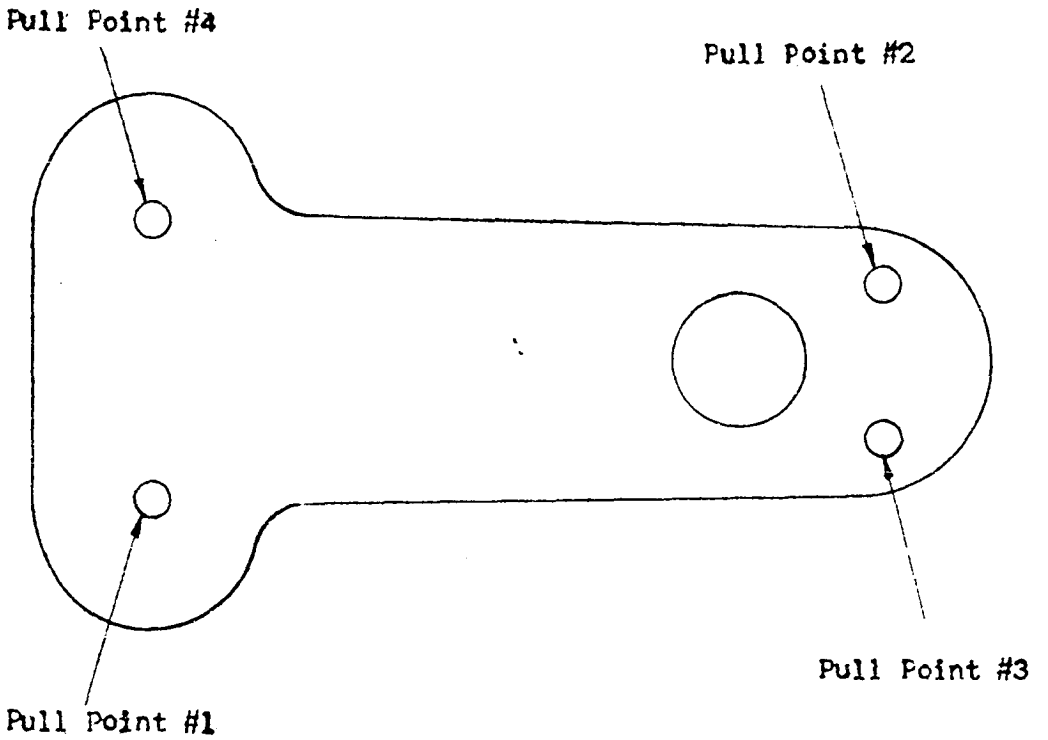

TOP VIEW

FIGURE 1 - SKETCH OF PULLOUT COVER SHOWING LOCATION OF PULL POINTS - DYNAMIC PULLOUT COVER TEST WITH GASKET

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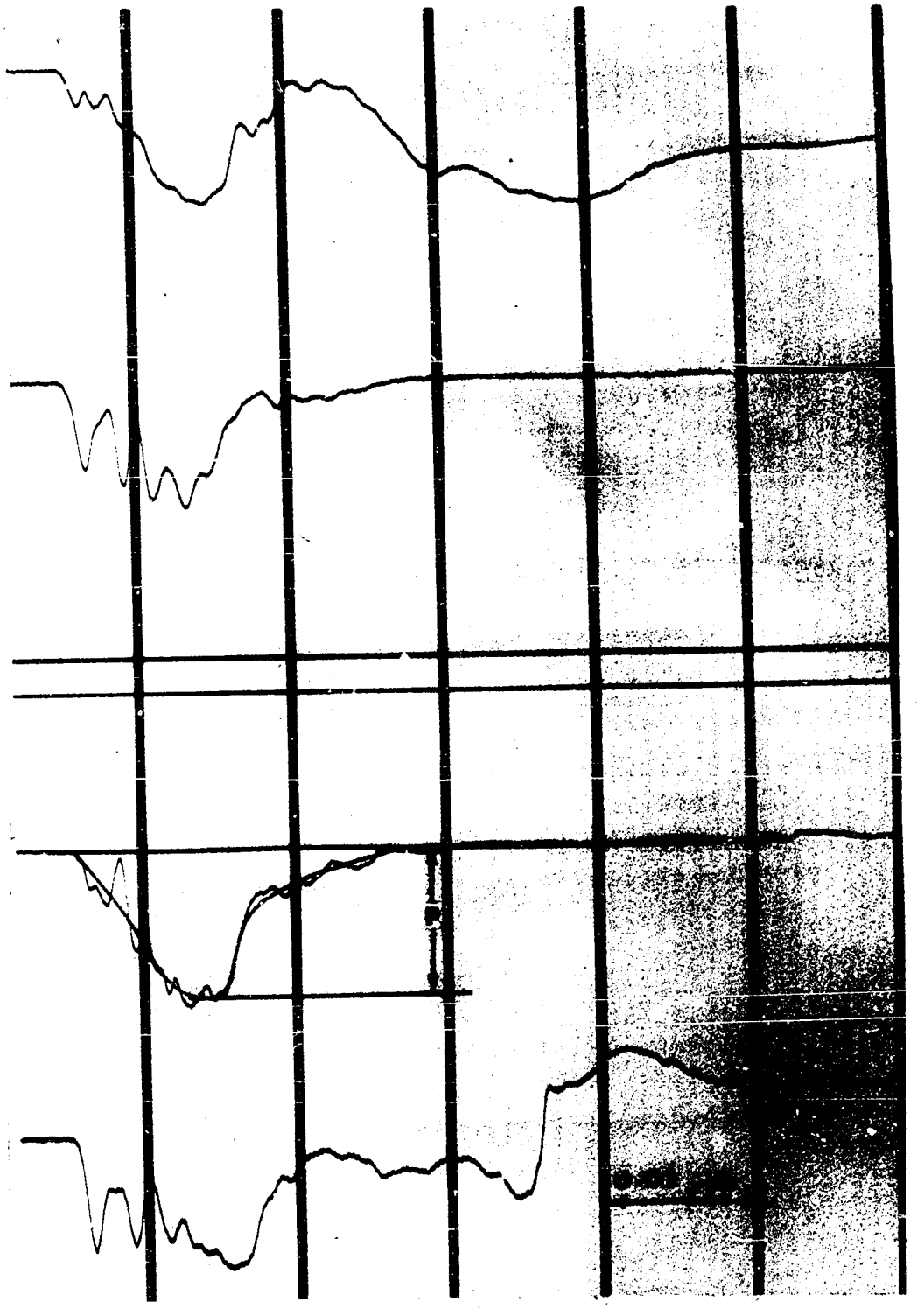
FULL POINT CAL.

NO. 1 350 LB/IN.

NO. 2 312 LB/IN.

NO. 3 325 LB/IN.

NO. 4 354 LB/IN.



P = MAX. FAIRED PULSE

0 1 2 3

Inch Scale

FIGURE 2 - OSCILLOGRAPH RECORD OF STRESS LINKS AT TIME OF COVER PULLOFF - DYNAMIC PULLOUT COVER TEST WITH GASKET

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