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UNCLASSIFIED

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 6/10/98
Authority: DOE ADD
Name: [illegible]
2nd Review Date: 6-17-98
Authority: ADD
Name: W. Layne
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:

DEC 29 1961

File: MK-43, 3-2
T-No: 17356
Completed: 9-26-61

RECEIVED
JAN 2 1962
CENTRAL RECORD FILE

MR. L. A. DUNN - 7122 (2)
Attn: T. K. Hill

Re: Static Test of TX-43 Clamp Ring Joint (U)

Summary of Test

Static tests were performed to determine the structural adequacy of the TX-43 clamp ring joint. The different test conditions and their results are as follows:

Condition No. 1 -- Simulated normal parachute deployment loads. The TX-43 center case section being used as a mounting fixture failed in going from 130 to 135 percent design limit loads.

Condition No. 2 -- Same loads as Condition No. 1, but with the clamp ring joints at top and bottom of case instead of at the sides as in all the other conditions. Clamp ring bolts failed in going from 90 to 100 percent limit loads.

Condition No. 3 -- Simulated ejection from the A3J aircraft. Clamp ring withstood 200 percent limit loads without failure.

Condition No. 4 -- Simulated parachute loading after ejection from the A3J. Clamp ring bolts failed at 88 percent limit loads.

Condition No. 5 -- Same loads as Condition No. 1, but with different design clamp ring and bolts. Bolts failed in going from 120 to 130 percent limit loads.

Stresses above the yield strength of the clamp ring material occurred only in Condition No. 1 while stresses near the yield strength occurred in Condition Nos. 2 and 5. Stresses much lower than yield were found in the other conditions.

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Object of Test

The object of this test was to determine the structural adequacy of the TX-43 clamp ring joint statically loaded to each of the following conditions:

Condition No. 1 -- Simulated normal parachute deployment loads, with the clamp ring bolts at either side of the case.

CENTRAL RECORD FILE
TX 43
3-2

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP
CLASSIFICATION CHANGED TO: U
AUTHORITY: W.C. Layne
Emelda Selph 6/23/98
PERSON CHANGING MARKING & DATE
RECORD ID: 98SW2498
W.C. Layne 6/24/98
PERSON VERIFYING MARKING & DATE
DATED: 6/17/98

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Condition No. 2 — Same as No. 1, except with the bolts at top and bottom of the case.

Condition No. 3 — Simulates ejection from the A3J aircraft.

Condition No. 4 — Simulates parachute landing after ejection from the A3J aircraft.

Condition No. 5 — Same as No. 1 with a different clamp ring design and larger bolts.

Authorization for Test

The test was performed in accordance with a Work Order Authorization from Organization 7122 to Organization 7321, dated October 31, 1960. Test consultants were T. K. Hill, 7122-2, and R. E. Davis, 7112-2.

Equipment and Instrumentation

Loading equipment used for Condition Nos. 1, 2, 3, and 5 is listed in Tables I through IV. In Condition No. 4 there was only one load, applied by a 10-inch bore hydraulic cylinder of 190,000 pounds capacity, and measured with a 200,000 pound capacity load cell, serial no. 16088.

The instrumentation used in Condition No. 1 consisted of:

14 - Baldwin SR-4 rectangular rosette strain gages, type FABR-25-12, gage factor 2.12, gage resistance 120 ohms, mounted with Eysol 1-C cement.

Seven rosettes were mounted on each of the two sections of the clamp ring, locating one at the center and the others at points 20, 40, and 60 degrees on both sides of center. Locations and numbering of these gages are shown in Figures 1 and 2.

Instrumentation used in Condition Nos. 2, 3, and 4 was identical to that for No. 1 with several additional gages. A rosette, and two uniaxial gages (Baldwin type FAB-06-12), were mounted near the bolts on one section of the clamp ring. Figures 3 and 4 show the gages on a ring typical of those used for these three conditions.

For Condition No. 5, only one section of the clamp ring was instrumented, using seven rosettes of the same type as used in the previous conditions. One rosette was mounted at the center of the section, with the others at 25, 50, and 75 degrees on both sides of center as shown in Figures 5 and 6.

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Procedure

Details of the clamp rings used in the first [illegible] given in Dwg. Nos. 130092-01 and 14[illegible]-05. The rings were joined with 1/4 inch bolts, 7/8 inch long, Standard Pressed Steel Company type No. SD-301-[illegible]. The clamp ring used in the fifth condition was fabricated according to Dwg. No. 167538-00, and joined with special 5/16 inch bolts, as per Dwg. No. 167511-00. The clamp rings were made of type 4340 steel, Mil S-5626, condition C, surface 4. They were heat treated to a hardness of Rockwell C27-32, and an ultimate tensile strength of 125,000 to 145,000 psi.

A TX-43 center case section was used as a mounting fixture for the clamp ring in Test Condition No. 1. The forward end of the case was attached to the static jig while the aft portion was supported by a wooden saddle. The ring was loaded by a fixture consisting of the lug ring from a TX-43 rear case section to which a crossbar had been welded. The loads applied to the crossbar were 24 inches apart, 12 inches on either side of center. Figure 7 shows the setup for this first condition.

The clamp ring was mounted according to the following procedure: The clamp ring sections were put into place and bolted together. The screws were tightened to about 125-150 inch-pounds of torque. The ring was tapped with a lead mallet and the screws re-tightened. This was repeated until tapping the ring had no effect on the screw torque. Rings for all test conditions were mounted in this manner. Also, in all conditions except No. 2 the ring joints were located at the sides of the case. In Condition No. 2 the joints were at top and bottom.

The loads in Condition No. 1 were applied in increments of design limit loads up to failure of the center case section. Strain gage readings were taken at each increment.

A different setup was used for Condition Nos. 2, 3, and 5 since the center case section had proved to be unsatisfactory as a mounting fixture. The new mounting fixture consisted of a few inches of the aft end of the center case section welded to a heavy steel plate. Otherwise the setup was much the same as for Condition No. 1. A typical setup is shown in Figure 8.

Although these three conditions were practically identical in setup and procedure, there were some differences. As mentioned previously, the ring joints were at the top and bottom in Condition No. 2. In Condition No. 3 the bottom section of the ring was purposely not tapped during mounting. For Condition No. 5 the inner surface of the ring was lubricated with "Lad-Plate #250" compound.

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Condition No. 4 was a test subjecting the joint to a single lateral load. This load was applied 3.75 inches aft of the joint. Its design limit value was 118,000 pounds. The setup is shown in Figure 9.

In all conditions loads were applied in increments up to failure or 200 percent design limit, whichever occurred first. Strain readings were recorded at each increment.

Results

Strain readings and the corresponding calculated principal stress magnitudes and directions are given in Tables V through IX. Constants used for the stress calculations were 29.0 million psi for the modulus of elasticity and 0.285 for Poisson's ratio. Table X gives strain readings from the two uniaxial gages used in Condition Nos. 2, 3, and 4.

Assuming the yield strength of the clamp ring material to be the specified minimum flexural yield strength of 124,000 psi, it will be noted that yielding occurred above 115 percent design limit load in Condition No. 1. Values of stresses above the yield strengths should be disregarded since the elastic equations used in calculating them are no longer valid.

Comparisons of the stress tables reveal that the highest stresses occurred in Condition Nos. 1, 2, and 5. Also, at any particular rosette location stresses were approximately the same for all three of these conditons. (Recall that in Condition No. 2 the ring joints were at the top and bottom, placing gage Nos. 3 thru 5, rosette 1, near the top with Nos. 6 thru 8, rosette 2, and 45 thru 47, rosette 15, on either side). Stresses were lowest for Condition No. 3, due to lower loads. In all conditions the principal stresses were approximately longitudinal and circumferential in direction.

In Condition No. 1, failure occurred while increasing the load from 130 to 135 percent design limit. Failure was not in the clamp ring, but in the threaded joint between the inner and outer cases of the center case section. This is shown in Figures 10 and 11.

Failure in Condition No. 2 occurred while increasing the loads from 90 to 100 percent design limit, and consisted of fracture of the four bolts joining the ring sections. In Condition No. 3 the clamp ring withstood 200 percent limit loads without failure. Failure in Condition No. 4 occurred at 88 percent limit load, and was also a bolt failure.

Failure in Condition No. 3 was also a bolt failure, as shown in Figure 12. It occurred while increasing the load from 120 to 130 percent design limit.

W. R. SIGMON - 7321-1

7321 Project Engineer: R. J. KLINGLER - 7321-5

Approved By: R. S. HOOPER - 7321-5

WMS:7322-1:er

Encl: Figs. 1 thru 12
Tables I thru X

Copy to:
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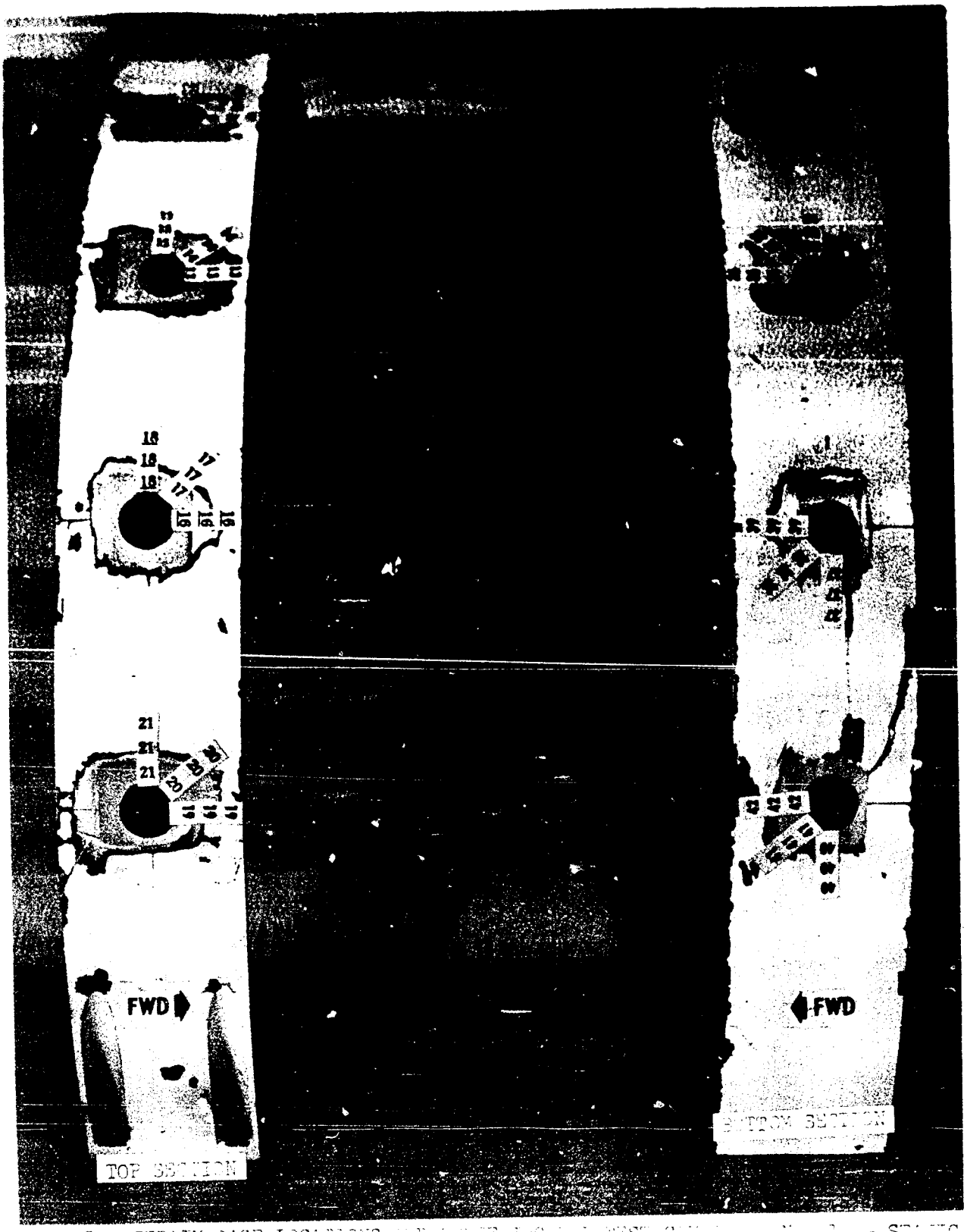

FIG. 1. STRAIN GAGE LOCATIONS [illegible] . 1 -- STATIC TEST OF TX-43 CLAMP RING [illegible].

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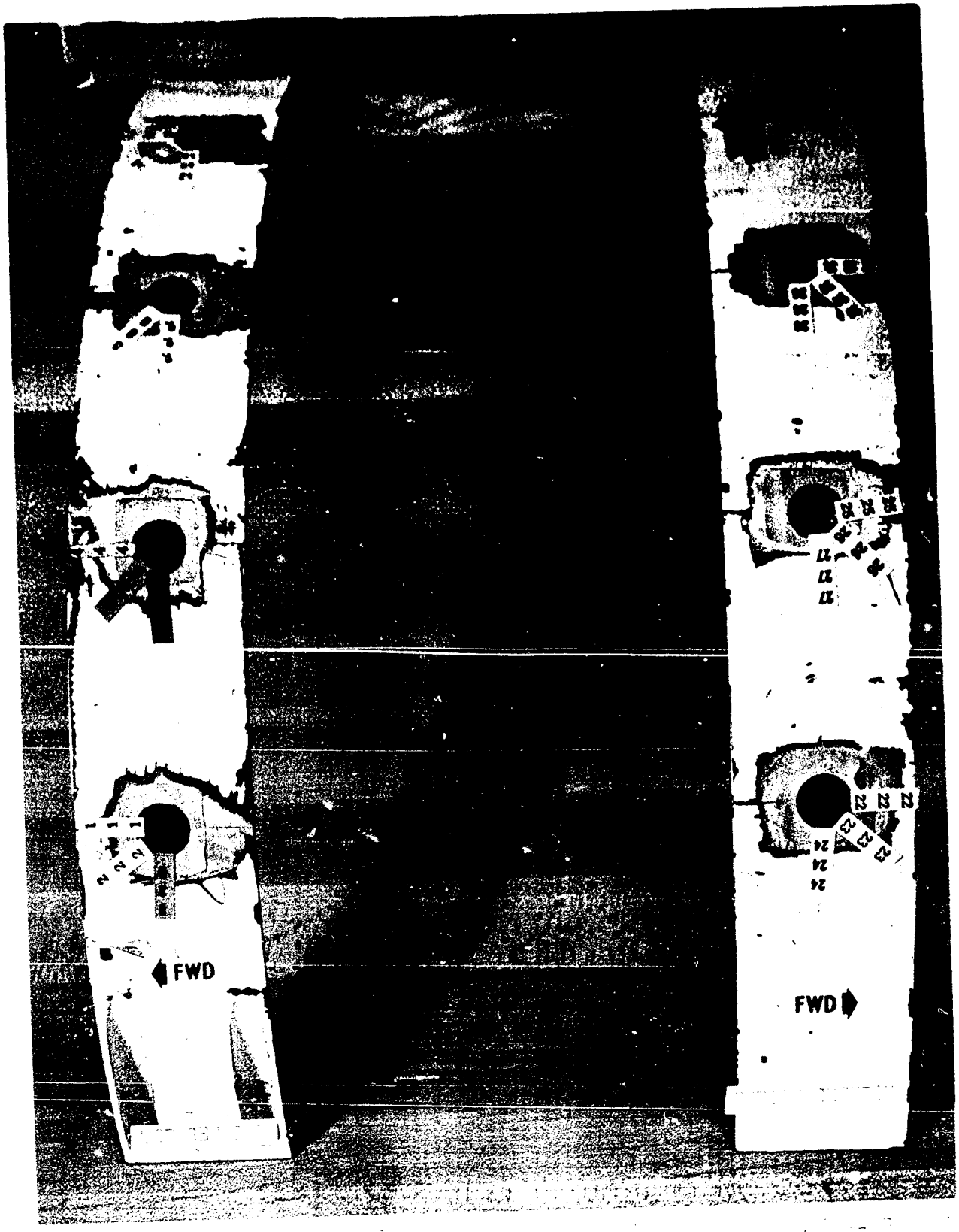

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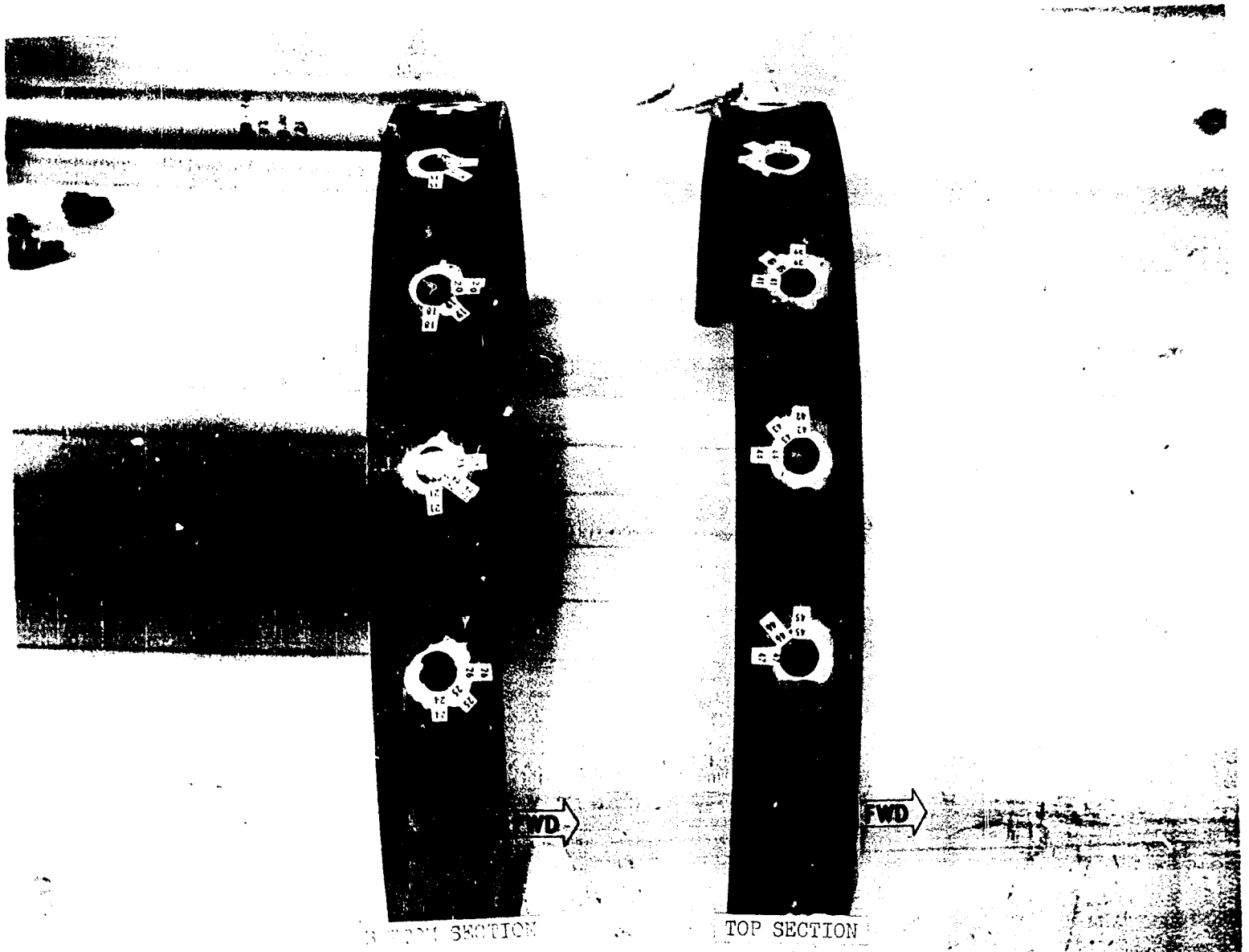

FIG. 3. STRAIN GAGE LOCATIONS AND NUMBERING FOR TEST CONDITION NOS. 2, 3, AND 4 -- STATIC TEST OF TX-43 CLAMP RING JOINT.

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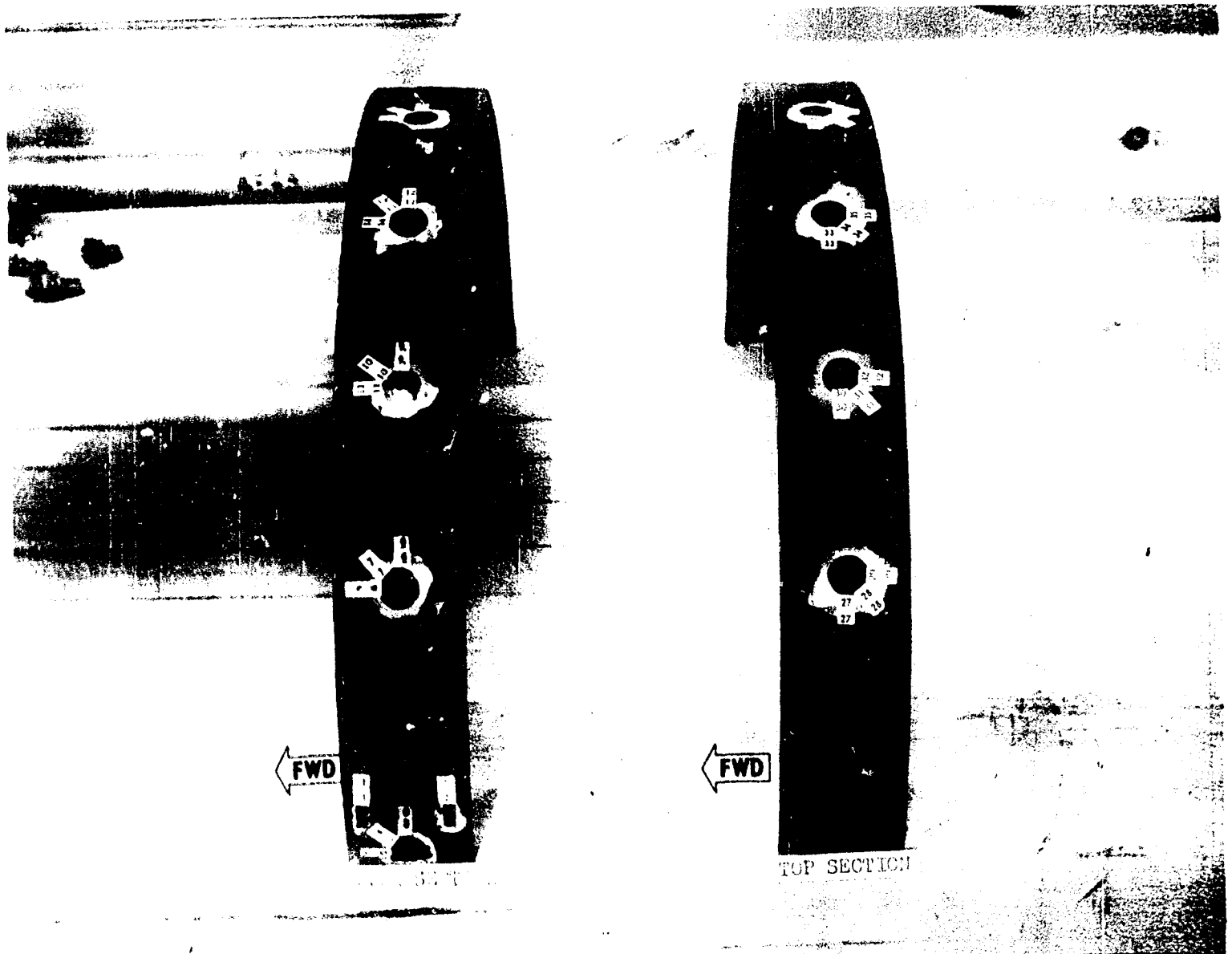

[illegible] FOR TEST CONDITION NOS. 2, 3, AND [illegible] X-13 CLAMP RING JOINT.

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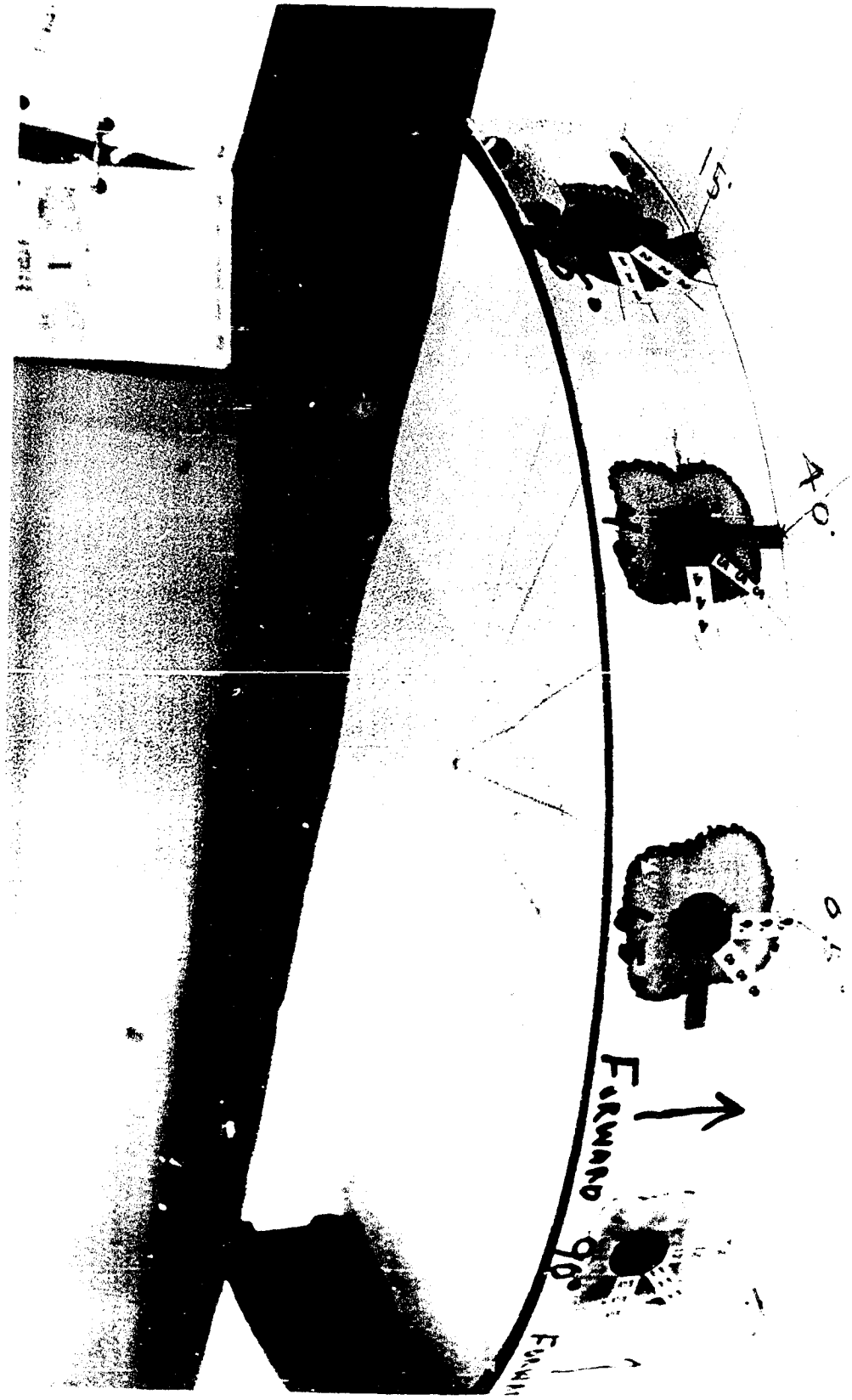

FIGURE 5. [illegible] TEST CUTTER NO. 5 -- STATIC

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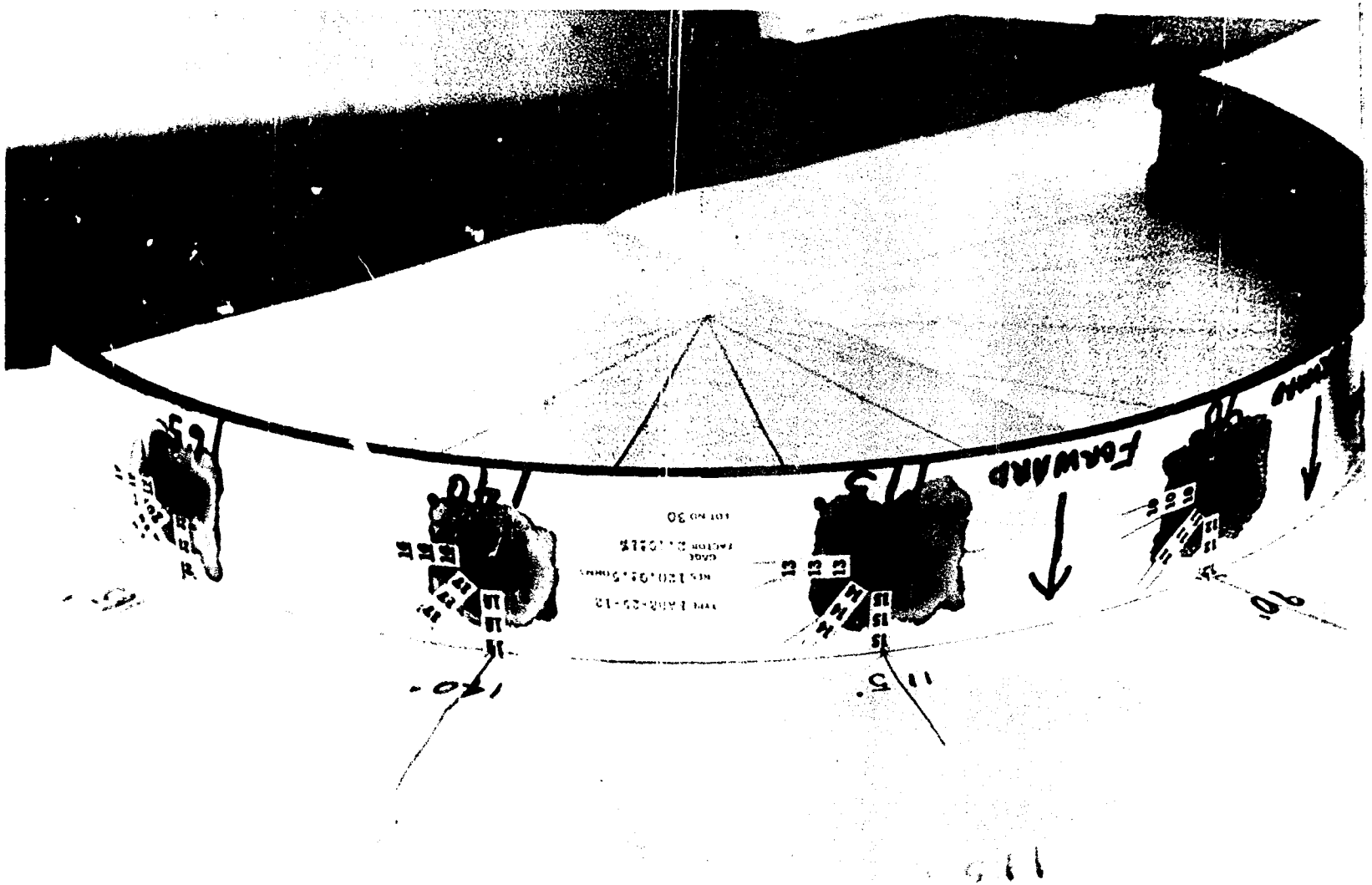

FIG. 6. STRAIN GAGE LOCATIONS AND NUMBERING FOR TEST CONDITION NO. 5 -- STATIC TEST OF TX-43 CLAMP RING JOINT.

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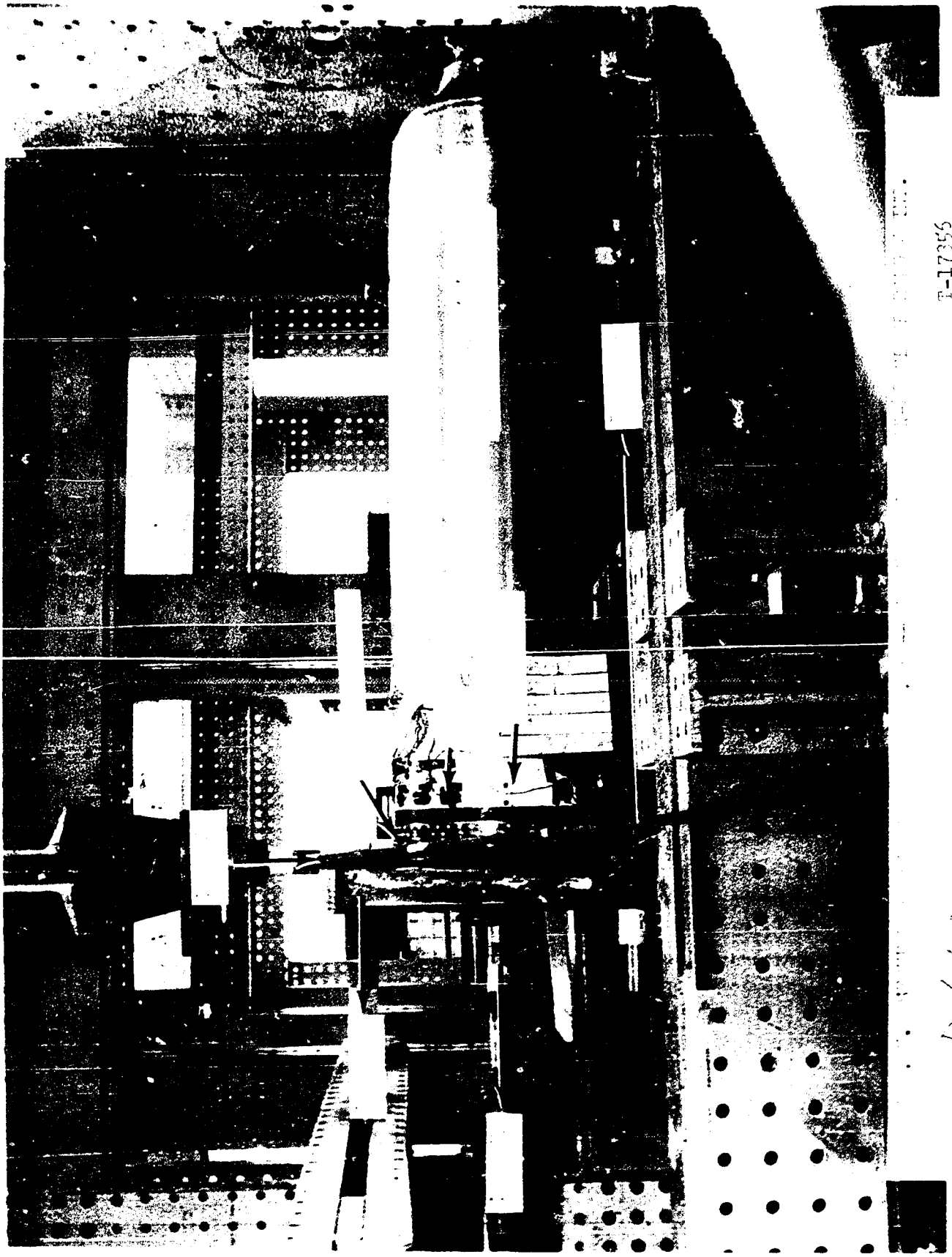

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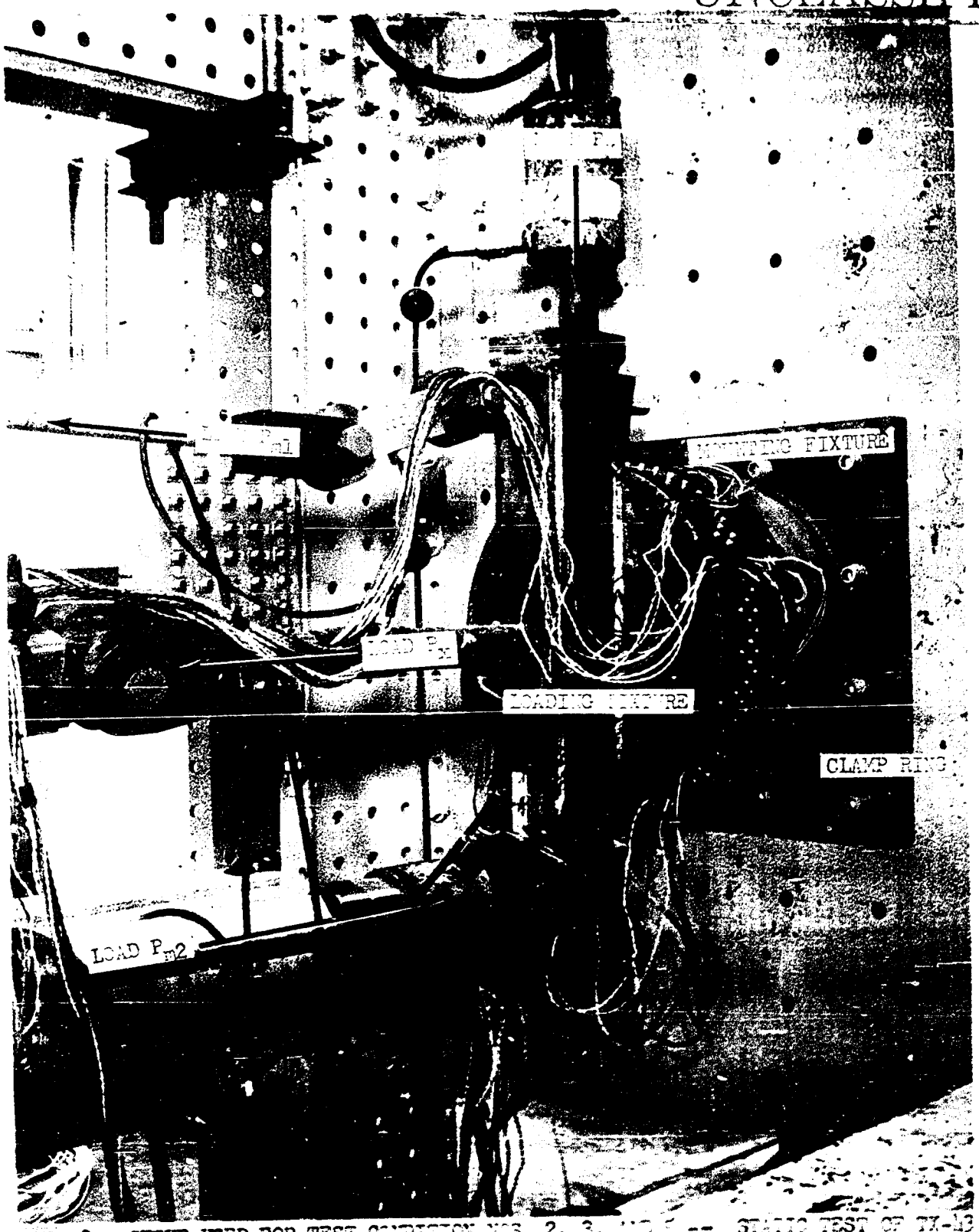

FIG. 8. SETUP USED FOR TEST CONDITION NOS. 2, 3, AND 5 -- STATIC TEST OF TX-13 CLAMP RING JOINT.

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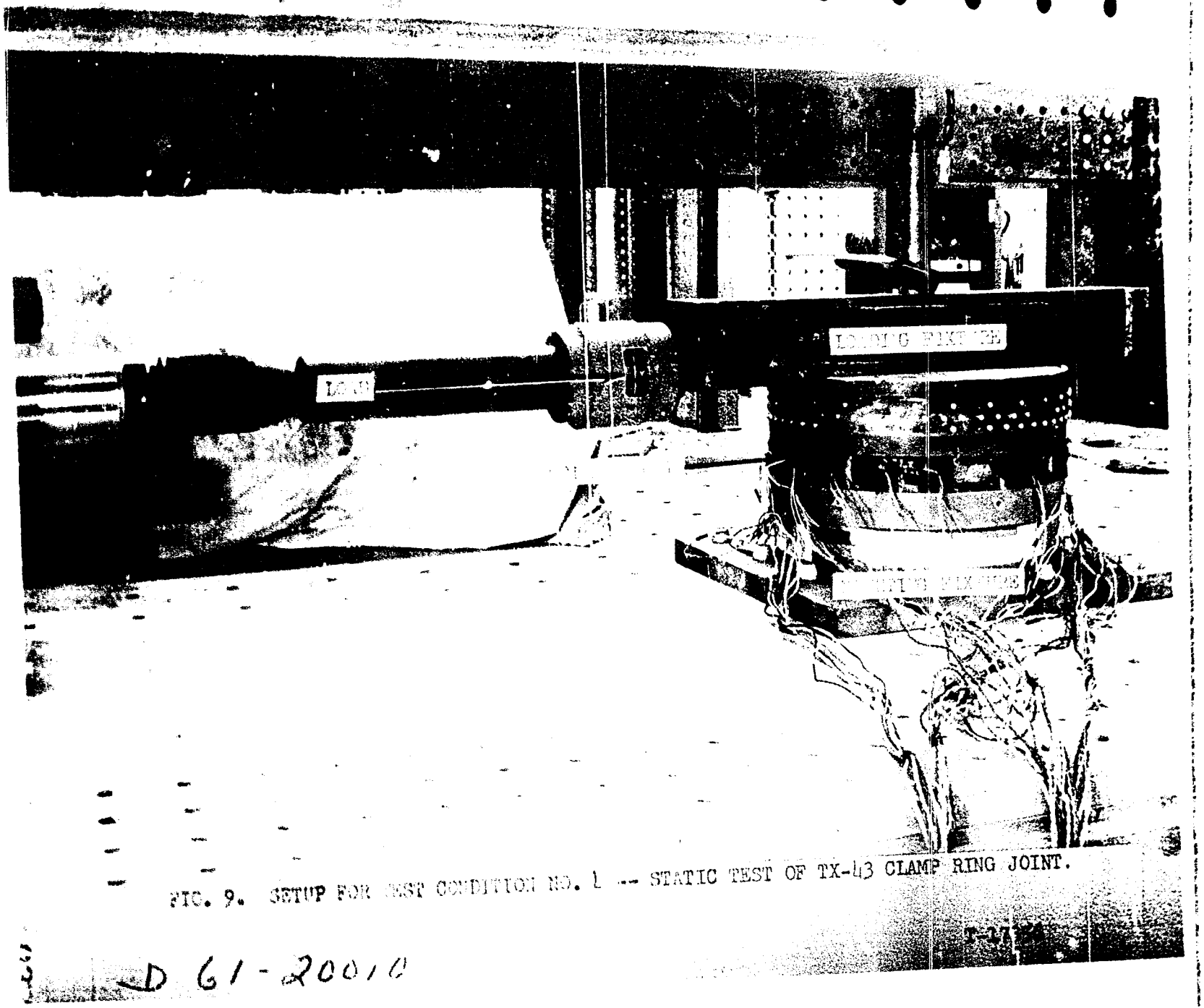

FIG. 9. SETUP FOR TEST CONDITION NO. 1 -- STATIC TEST OF TX-43 CLAMP RING JOINT.

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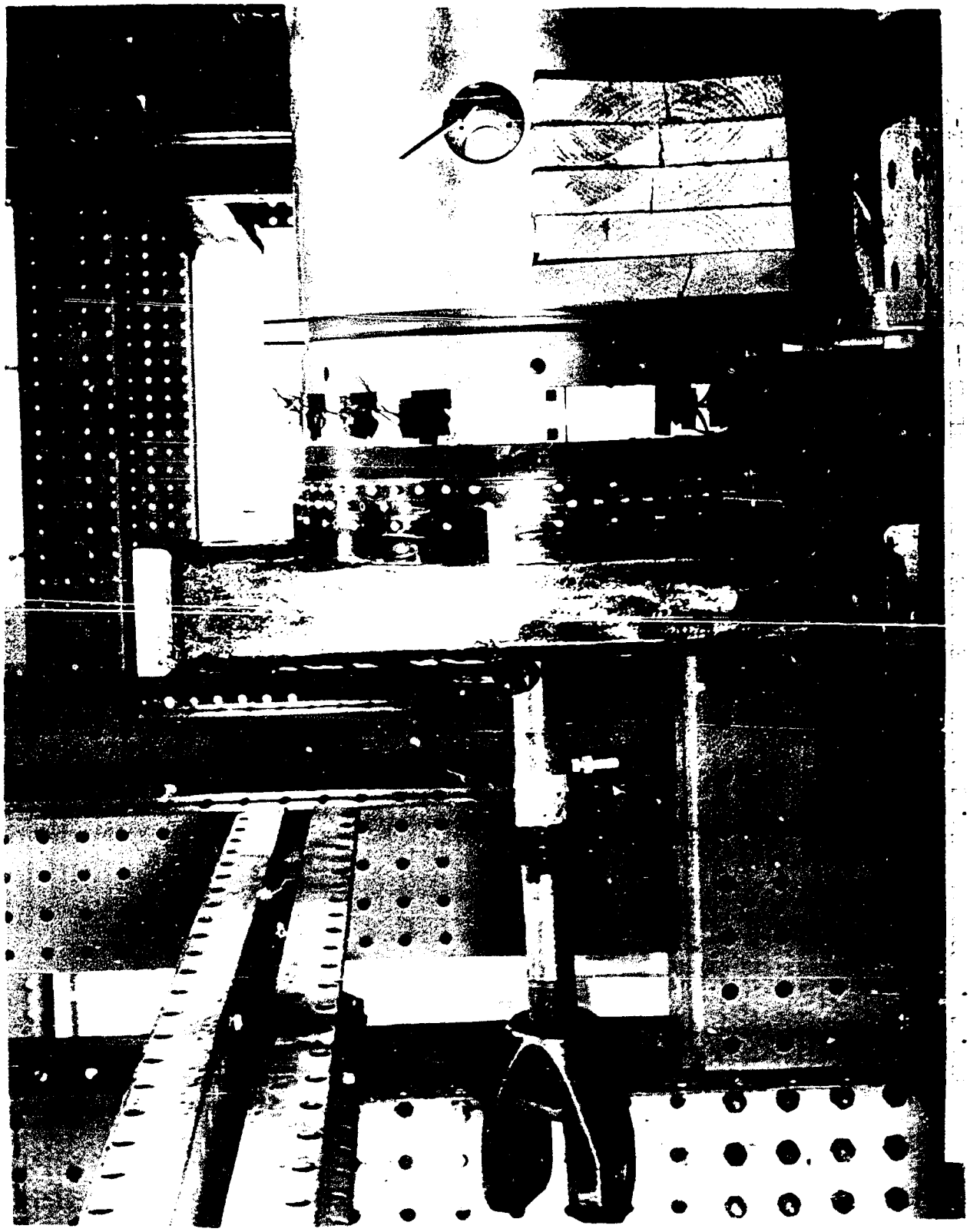

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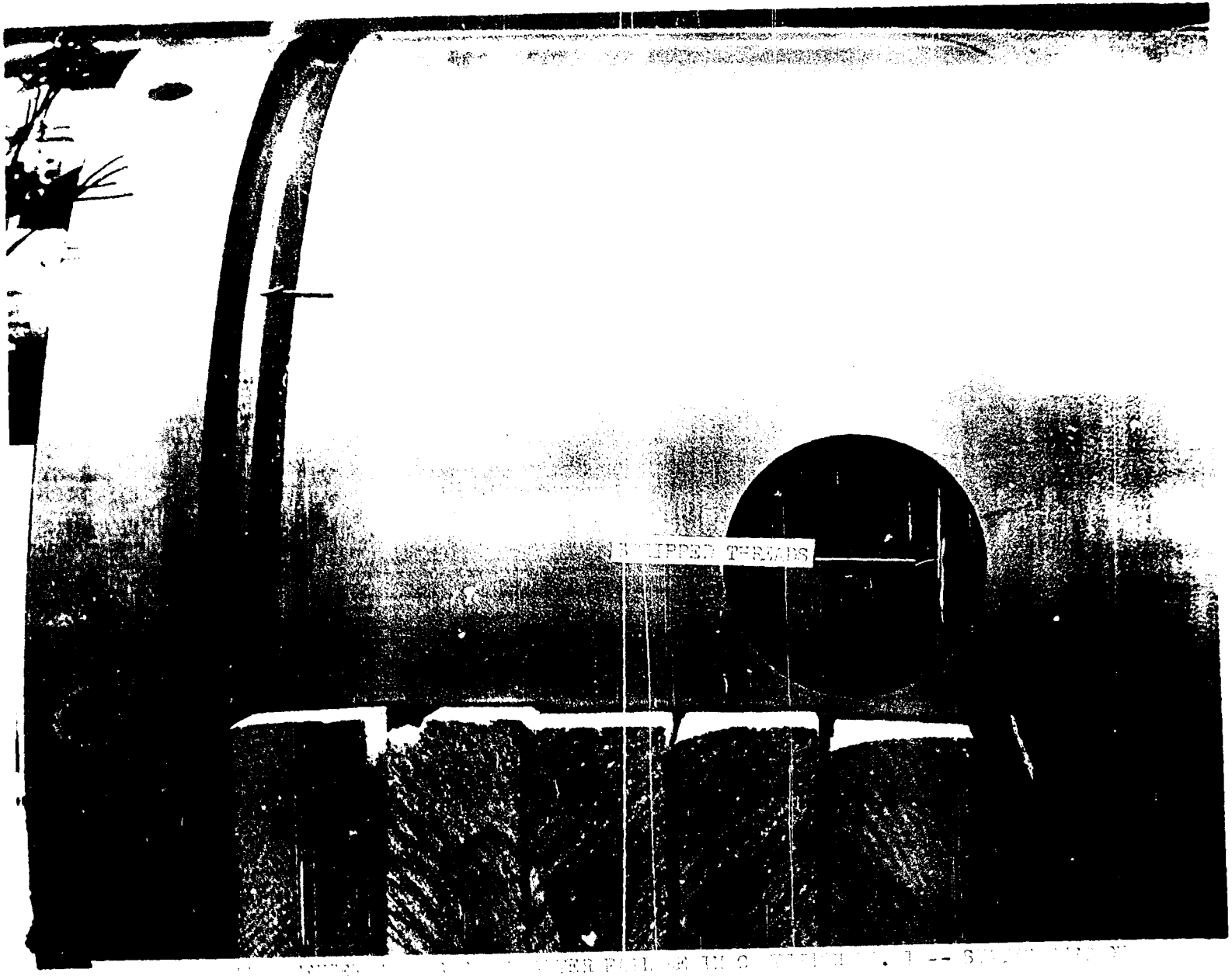

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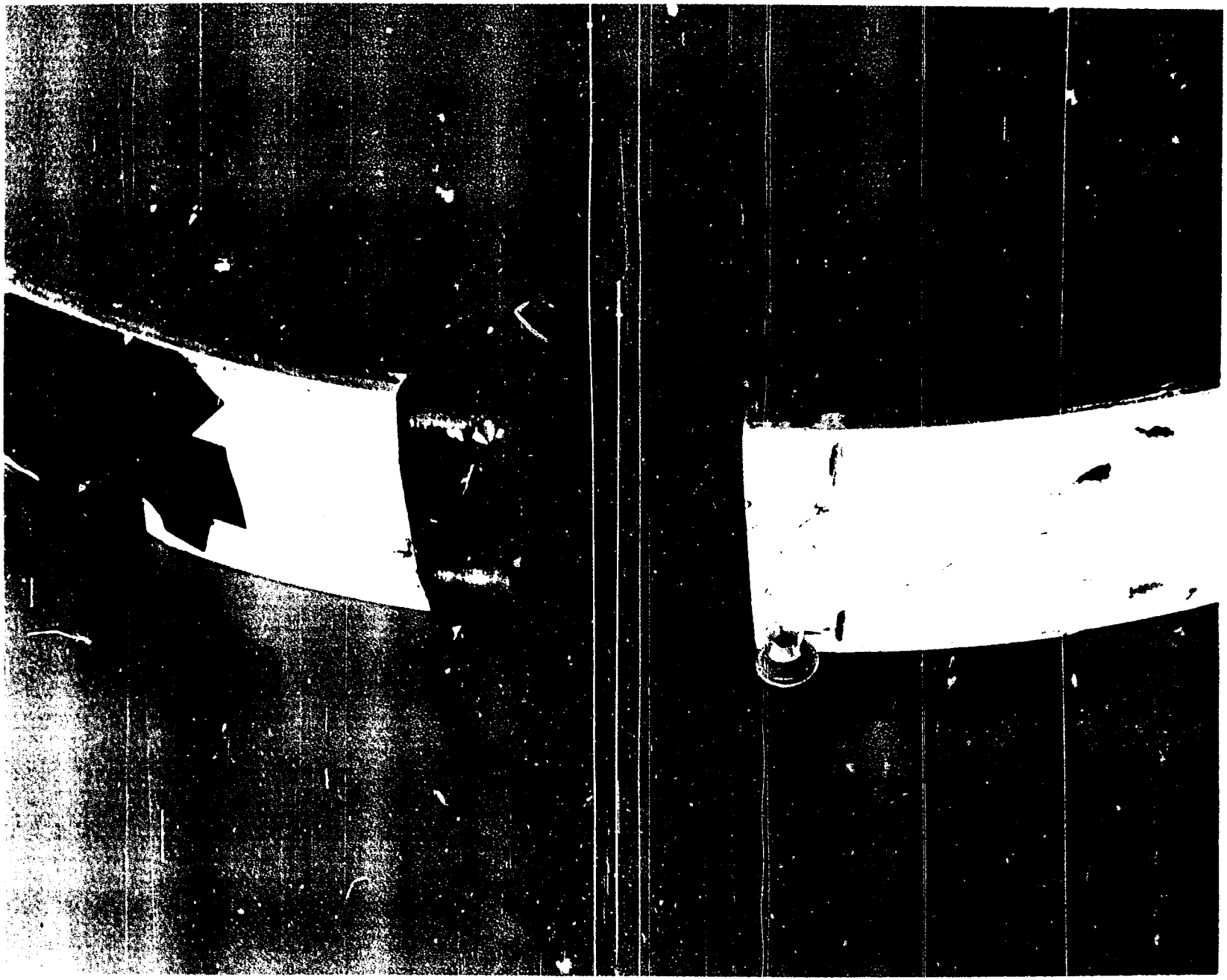

. 12. [illegible] AFTER FAILURE IN CONDITION NO. 5 -- STATIC TEST OF EX-43

[illegible] 1-16350

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TABLE I

Loads and Loading Equipment
Condition No. 1
Static Test of TX-43 Clamp-Ring Joint

	Load Designation			
	P_X	P_Y	P_{M1}	P_{M2}
Limit Load (pounds)	118,000	12,000	32,500	32,500
Load-Cell Capacity (pounds)	250,000	50,000	80,000	80,000
Load-Cell Serial No.	PB-2	1115	BPB-3	BPB-7
Strain Indicator Serial No.	391903	391905	J-59101	175441
Hydraulic Cylinder Bore Size (inches)	-	-	-	4
Hydraulic Cylinder Capacity (pounds)	240,000	14,000	60,000	40,000

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18

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T-17356

TABLE II

Loads and Loading Equipment
Condition No. 2
Static Test of TX-43 Clamp-Ring Joint

	Load Designation			
	P_X	P_Y	P_{M1}	P_{M2}
Limit Load (pounds)	118,000	12,000	32,500	32,500
Load-Cell Capacity (pounds)	250,000	20,000	100,000	50,000
Load-Cell Serial No.	Link-2	2392	Link-D	1118
Load Maintainer Channel No.	11	10	9	12
Hydraulic Cylinder Bore Size (inches)	12	3.25	6	6
Hydraulic Cylinder Capacity (pounds)	215,000	20,000	55,000	70,000

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TABLE III

Loads and Loading Equipment
Condition No. 3
Static Test of TX-43 Clamp-Ring Joint

	Load Designation			
	P_X	P_Y	P_{M1}	P_{M2}
Limit Load (pounds)	20,000	8,000	16,250	16,250
Load-Cell Capacity (pounds)	100,000	20,000	100,000	50,000
Load-Cell Serial No.	Link-F	2392	Link-D	1118
Load Maintainer Channel No.	11	10	9	12
Hydraulic Cylinder Bore Size (inches)	12	3.25	6	6
Hydraulic Cylinder Capacity (pounds)	215,000	20,000	55,000	70,000

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TABLE IV

Loads and Loading Equipment
Condition No. 5
Static Test of TX-43 Clamp-Ring Joint

	Load Designation			
	P_X	P_Y	P_{M1}	P_{M2}
Limit Load (pounds)	118,000	12,000	32,500	32,500
Load-Cell Capacity (pounds)	250,000	20,000	100,000	50,000
Load-Cell Serial No.	Link-3	2392	Link-H	1115
Load Maintainer Channel No.	12	9	10	11
Hydraulic Cylinder Bore Size (inches)	12	3.25	6	6
Hydraulic Cylinder Capacity (pounds)	215,000	20,000	55,000	70,000

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STRAIN READINGS AND CALCULATED PRINCIPAL STRESSES

TEST CONDITION NO. 1

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STATIC TEST OF TX-43 CLAMP RING JOINT

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 1			ROSETTE 2			ROSETTE 3			ROSETTE 4			ROSETTE 5		
	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12	CH 13	CH 14	CH 15
10	-30	-30	-30	-30	-40	-40	-40	-40	-40	-50	-20	-20	-50	-40	-30
20	-90	-90	-60	-100	-80	-90	-160	-130	-90	-210	-110	-80	-150	-120	-40
30	-170	-170	-110	-310	-220	-160	-480	-310	-180	-560	-310	-130	-480	-310	-150
40	-340	-340	-180	-590	-400	-210	-780	-460	-250	-880	-480	-150	-820	-500	-180
50	-580	-520	-220	-890	-540	-230	-1100	-600	-280	-1190	-620	-160	-1130	-700	-200
60	-890	-670	-210	-1240	-690	-230	-1490	-780	-310	-1560	-780	-170	-1470	-890	-200
70	-1140	-840	-220	-1570	-840	-240	-1840	-930	-320	-1890	-1000	-170	-1800	-1050	-200
80	-1480	-1020	-230	-1960	-1000	-240	-2260	-1090	-330	-2280	-1080	-170	-2140	-1250	-200
90	-1930	-1250	-220	-2500	-1240	-240	-2840	-1350	-360	-2830	-1310	-180	-2660	-1550	-200
100	-2250	-1400	-220	-2900	-1430	-250	-3260	-1560	-410	-3230	-1510	-210	-3040	-1780	-210
110	-2740	-1680	-230	-3500	-1720	-300	-3920	-1880	-480	-3830	-1820	-280	-3600	-2100	-200
115	-3010	-1830	-240	-3850	-1890	-330	-4320	-2100	-540	-4240	-2020	-330	-3950	-2320	-190
120	-3300	-1990	-270	-4160	-2030	-360	-4700	-2260	-600	-4610	-2230	-380	-4320	-2540	-340
125	-3600	-2150	-300	-4510	-2200	-420	-5100	-2470	-660	-5000	-2450	-450	-4720	-2800	-360
50	-1480	-720	-140	-1940	-790	-70	-2330	-960	-160	-2210	-980	-30	-2020	-1180	-120
10	-50	-50	-190	-450	-330	-300	-830	-610	-510	-760	-640	-430	-540	-540	-300
0	140	40	-230	-300	-320	-380	-710	-590	-540	-650	-620	-500	-450	-500	-390
50	DEZERED GAGES														
50	-1170	-790	-170	-1330	-700	-190	-1400	-680	-190	-1420	-620	-40	-1430	-870	-210
90	-2030	-1290	-190	-2360	-1180	-260	-2480	-1190	-250	-2500	-1100	-80	-2480	-1430	-230
100	-2640	-1620	-180	-3060	-1480	-250	-3210	-1510	-260	-3210	-1390	-80	-3170	-1770	-220
110	-2930	-1770	-160	-3400	-1620	-240	-3580	-1670	-260	-3580	-1560	-80	-3520	-1950	-200
115	-3100	-1850	-140	-3600	-1700	-220	-3790	-1750	-260	-3800	-1650	-90	-3710	-2050	-180
120	-3270	-1940	-130	-3800	-1780	-200	-4000	-1840	-240	-4010	-1750	-90	-3910	-2150	-170
125	-3450	-2040	-130	-4010	-1870	-200	-4230	-1930	-250	-4230	-1840	-90	-4120	-2260	-170
130	-3550	-2130	-120	-4230	-1960	-200	-4470	-2040	-270	-4470	-1970	-110	-4350	-2390	-190

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STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 1			ROSETTE 2			ROSETTE 3			ROSETTE 4			ROSETTE 5		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
10	-1211	-1211	0	-1252	-157[illegible]	23	-1614	-1614	0	-931	-1894	113	-1387	-1841	90
20	-2546	-3503	67	-3475	-4192	126	-4243	-5846	86	-4177	-7526	104	-3839	-5443	86
30	-4688	-6612	67	-7749	-11219	96	-9885	-16750	94	-8982	-18864	95	-8968	-16456	91
40	-7927	-13059	67	-11833	-20452	90	-14645	-26922	96	-12467	-29100	93	-12920	-27436	90
50	-11236	-21049	73	-15101	-30098	92	-18325	-37367	96	-15494	-38988	93	-16261	-37414	88
60	-14018	-30374	80	-18163	-41161	93	-22665	-49977	96	-19028	-50789	93	-19241	-48154	88
70	-16396	-38489	80	-21368	-51677	93	-26015	-61155	96	-22050	-61085	91	-22176	-58537	88
80	-19844	-49166	83	-24755	-64029	93	-29886	-74637	96	-25284	-73590	94	-25142	-69292	88
90	-23589	-63178	84	-29490	-81087	93	-35880	-93261	96	-30361	-91113	94	-29680	-85740	87
100	-26517	-73164	85	-33330	-93793	93	-41138	-106971	95	-34836	-103991	94	-33947	-98019	87
110	-31123	-88736	86	-40159	-113196	93	-49104	-128465	95	-42323	-123543	94	-39815	-115961	87
115	-33624	-97335	86	-44170	-124521	93	-54551	-141582	95	-47468	-136962	94	-44130	-127386	87
120	-37362	-106711	86	-47798	-134614	93	-59615	-154275	95	-52345	-149035	94	-48645	-139417	87
125	-40598	-116393	87	-52709	-146249	94	-65024	-167430	95	-57997	-161947	93	-53694	-152529	87
[illegible]	-17356	-48022	94	-18798	-62319	96	-24800	-75688	97	-20274	-70125	94	-21491	-64872	87
[illegible]	-2597	-7[illegible]80	157	-13150	-17118	105	-23163	-30915	100	-20133	-27891	82	-15274	-21047	67
[illegible]	2802	-6434	168	-12707	-14736	167	-23138	-27308	101	-21221	-25189	75	-15012	-18888	55
[illegible]	-15376	-35751	83	-17671	-43671	93	-18116	-46051	95	-13613	-45308	95	-19211	-46974	[illegible]
[illegible]	-23934	-66058	84	-28870	-76864	94	-29488	-80686	94	-24280	-79840	94	-29755	-[illegible]	[illegible]
[illegible]	-28602	-85204	85	-34677	-98903	94	-36177	-103860	94	-30423	-102350	95	-34907	-101982	[illegible]
[illegible]	-30526	-94176	85	-37327	-109571	94	-39410	-115560	94	-33691	-114014	94	-37358	-112769	[illegible]
115	-31407	-97348	86	-38456	-115707	94	-41207	-122237	94	-35892	-121095	95	-38391	-118596	[illegible]
[illegible]	-32584	-104629	86	-39584	-121843	93	-42446	-128667	94	-37759	-127703	94	-39841	-124614	[illegible]
125	-34163	-111313	86	-41416	-128485	94	-44719	-136076	94	-39663	-134678	94	-41694	-131436	[illegible]
[illegible]	-35657	-118408	86	-43323	-135457	94	-47431	-143860	94	-42442	-142391	94	-44355	-138864	[illegible]

[illegible] NUMBER SIGNIFIES TENSION
[illegible] SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	CH 16	CH 17	CH 18	CH 19	CH 20	CH 21	CH 22	CH 23	CH 24	CH 25	CH 26	CH 27	CH 28	CH 29	CH 30
[illegible]	[illegible]	[illegible]	-30	-30	-30	-30	0	0	-10	0	-10	0	0	0	10
[illegible]	-110	-110	-80	-80	-80	-70	-10	10	0	10	0	-10	-10	0	30
[illegible]	[illegible]	[illegible]	-160	-160	-150	-110	-10	10	0	10	0	-10	-30	0	40
[illegible]	-620	[illegible]	-210	-300	-210	-150	-20	10	10	0	10	10	0	-20	10
[illegible]	-910	[illegible]	-230	-470	-300	-180	-40	10	10	0	10	20	-10	10	30
[illegible]	-1240	-720	-250	-710	-390	-190	-80	0	40	-60	10	60	30	0	-20
[illegible]	-1240	-720	-250	-710	-390	-180	-40	10	10	-100	0	80	40	-10	-40
[illegible]	-1690	-1090	-260	-1200	-680	-210	-190	-50	70	-150	-20	90	60	-10	-80
[illegible]	-2200	-1290	-250	-1550	-900	-210	-310	-110	90	-260	-70	130	100	-30	-100
[illegible]	-2620	-1400	-250	-1800	-1040	-200	-370	-140	100	-310	-80	150	110	-50	-210
[illegible]	[illegible]	-1710	-260	-2150	-1250	-200	-480	-200	100	-400	-120	160	130	-60	-260
[illegible]	[illegible]	-1850	-270	-2390	-1390	-200	-550	-230	100	-440	-140	180	150	-60	-290
[illegible]	[illegible]	[illegible]	[illegible]	-2620	-1540	-210	-630	-270	100	-500	-170	190	160	-60	-320
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-1730	-240	-740	-310	--	--	--	--	--	--	--
[illegible]	-1[illegible]	[illegible]	-11	-1080	-560	-110	-540	-210	150	-600	-240	110	190	-160	-360
[illegible]	-2[illegible]	[illegible]	-240	-150	-10	-100	-400	-200	-80	-570	-330	20	80	-210	-420
[illegible]	-1[illegible]	-3[illegible]	[illegible]	-300	40	-130	-280	-170	-160	-500	-330	-80	-20	-250	-500
[illegible]	[illegible]	[illegible]	[illegible]	-980	-540	-190	-20	-20	30	40	40	10	-50	-10	80
[illegible]	[illegible]	[illegible]	[illegible]	-1730	-980	-220	-80	-20	30	50	60	40	-40	-30	110
[illegible]	[illegible]	[illegible]	[illegible]	-2230	-1270	-200	-170	-80	80	20	40	80	10	-10	110
[illegible]	[illegible]	[illegible]	[illegible]	-2480	-1410	-170	-220	-90	100	0	20	110	20	20	120
[illegible]	[illegible]	[illegible]	[illegible]	-2620	-1500	-160	-280	-110	120	20	10	130	40	20	110
[illegible]	[illegible]	[illegible]	[illegible]	-2770	-1570	-150	-320	-120	120	-50	10	150	40	40	100
[illegible]	[illegible]	[illegible]	[illegible]	-2930	-1650	-130	-360	-150	130	-70	10	180	60	30	90
[illegible]	[illegible]	[illegible]	-170	-3130	-1760	-130	-420	-190	130	-100	0	190	80	50	80

[redacted]

UNCLASSIFIED

STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
010	-1054	-1171	54	-1211	-1211		--	--	--	--	--	--	--	--	--
020	-3353	-4315	67	-2866	-3187	67	157	-560	126	227	-227		911	-104	77
030	-7956	-11819	92	-4787	-6109	75	157	-560	126	227	-227		1004	-600	86
040	-12031	-21465	95	-7345	-10815	96	279	-683	113	--	--	--	--	--	--
050	-15239	-30768	93	-9779	-16453	95	197	-1407	113	--	--	--	1524	90	81
060	-18824	-41307	91	-12108	-24213	96	627	-2242	99	1380	-1380	95	780	-376	[illegible]
070	-18824	-41307	91	-11820	-24097	96	197	-1407	113	1650	-2457	93	935	-939	7
080	-24545	-60608	90	-17210	-39693	91	536	-5379	92	1520	-3942	92	1184	-1991	0
090	-28204	-74705	90	-20311	-50717	89	97	-8975	90	1801	-7047	89	1475	-5107	1
100	-31029	-84795	89	-22189	-58524	89	-117	-10779	89	1988	-8445	90	1611	-5647	0
110	-35585	-100013	89	-25240	-69598	88	-1086	-14249	89	1508	-11193	90	1801	-7047	17[illegible]
115	-38636	-109877	89	-27333	-77191	88	-1708	-16452	90	1788	-12281	89	2170	-7623	17[illegible]
120	-42145	-119282	89	-29627	-84582	87	-2415	-18974	90	1577	-14088	89	2234	-8691	17[illegible]
125	-46526	-131850	89	-33263	-94648	87	--	--	--	--	--	--	--	--	--
050	-18488	-54557	91	-12983	-35041	92	-37	-15702	89	-1835	-17940	90	899	-16638	177
010	-7503	-12272	46	-2375	-7714	129	-5945	-13426	97	-4292	-17904	85	-2842	-18[illegible]	17[illegible]
000	-5671	-12086	23	-2580	-14773	126	-7107	-10650	110	-6855	-16552	85	-5656	-16[illegible]	17[illegible]
000															
050	-18600	-43549	90	-14592	-32626	93	1004	-600	67	1490	528	157	2185	-97[illegible]	76
080	-27941	-73758	90	-22223	-56472	90	244	-2262	93	2175	1457	144	3664	-837	76
100	-33056	-94068	90	-25978	-72088	88	1128	-4760	82	2735	1301	81	4372	470	63
110	-35480	-103750	90	-27205	-79740	88	1271	-6114	85	--	--	--	4429	1221	67
115	-36126	-109158	90	-28087	-84105	87	1358	-7815	86	4958	1096	65	4505	1548	61
120	-37401	-114743	90	-29104	-88737	88	975	-9046	87	4461	-425	79	3787	1663	67
125	-38765	-120644	90	-29576	-93615	88	972	-10254	86	5233	-794	80	4103	1931	54
130	-44041	-140389	93	-31632	-99930	88	468	-12172	85	5260	-1627	81	3909	2548	45

UNSIGNED NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14		
	CH 31	CH 32	CH 33	CH 34	CH 35	CH 36	CH 37	CH 38	CH 39	CH 40	CH 41	CH 42
10	10	0	10	-20	0	10	-10	0	0	-10	-10	-10
20	0	10	30	-40	0	30	10	0	-10	-10	-20	-30
30	-20	20	50	-50	-10	30	10	10	-20	-20	-20	-60
40	60	-20	20	60	-40	-10	30	20	-30	-50	-30	-90
50	-20	20	50	-30	-10	10	20	-40	-90	-20	-40	-130
60	20	0	-20	20	-20	-70	50	-80	-190	0	-80	-230
70	40	-10	-50	50	-30	-120	60	-120	-260	-10	-140	-320
80	80	-20	-100	90	-40	-180	70	-170	-350	-20	-200	-430
90	140	-40	-210	120	-80	-330	80	-270	-500	-40	-280	-600
100	160	-50	-230	150	-90	-370	90	-310	-570	-40	-350	-700
110	180	-60	-270	170	-110	-420	100	-370	-660	-50	-420	-860
115	200	-60	-290	180	-120	-460	100	-400	-720	-50	-450	-960
120	210	-70	-310	200	-130	-500	100	-430	-770	-60	-500	-1050
125	--	--	--	--	--	--	--	--	--	--	--	--
90	240	-210	-600	170	-240	-670	100	-430	-770	-60	-500	-1050
80	110	-310	-630	20	-330	-650	-10	-320	-510	-120	-120	-280
60	0	-350	-610	-80	-370	-600	-120	-290	-390	-190	-60	-130
50	UNLOADED READINGS											
50	-60	40	80	-60	20	40	20	-20	-20	20	-70	-170
60	-10	90	110	-20	20	40	60	-60	-120	20	-200	-430
70	60	120	120	20	20	10	80	-150	-200	10	-300	-620
110	100	130	130	50	30	10	90	-130	-250	0	-350	-700
115	110	140	140	70	30	-10	110	-160	-280	10	-380	-760
120	120	140	140	90	30	-10	130	-160	-300	10	-410	-820
125	140	160	150	110	10	-20	130	-180	-330	20	-440	-870
130	150	160	150	120	10	-40	150	-190	-360	50	-480	-950

[redacted]

UNCLASSIFIED

STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
10	630	177	45	157	-560	99	-41	-362	113	-404	-404	
20	--	--	--	600	-1004	94	227	-227	0	-580	-1034	0
30	1407	-197	94	504	-1311	90	279	-683	157	-973	-2256	157
40	3049	189	36	2683	-665	31	818	-818	163	-1811	-3839	148
50	1407	-197	94	50	-857	90	-160	-2665	3	-1548	-4505	164
60	454	-454	0	18	-2036	177	-94	-5556	2	--	--	--
70	825	-1229	3	519	-3344	178	-378	-7693	4	-3098	-10220	175
80	1650	-2457	3	1248	-4880	179	-339	-10461	4	-4396	-13764	177
90	2558	-5383	1	897	-9372	177	-1758	-15192	6	-6499	-19329	176
100	3023	-5848	2	1475	-10354	178	-2034	-17337	6	-7434	-22430	178
110	3298	-6931	2	1655	-11744	179	-2443	-20157	7	-9142	-27582	178
115	3751	-7383	2	1622	-12922	178	-2990	-22031	6	-9985	-30775	177
120	3897	-7932	2	1898	-14005	178	-3421	-23618	6	-11102	-33694	177
125	--	--	--	--	--	--	--	--	--	--	--	--
[illegible]	2206	-16814	2	-560	-19618	179	-3421	-23618	6	-11102	-33694	177
10	-2025	-18961	4	-5107	-20318	1	-4661	-16324	7	-5505	-10637	157
[illegible]	--	--	--	-7785	-19657	3	-7128	-13454	7	-4089	-8825	127
[illegible]												
[illegible]	2131	-1324	102	919	-1726	105	642	-642	23	-869	-5184	178
[illegible]	3653	382	107	1121	-314	99	941	-3362	9	-3169	-13378	179
[illegible]	4894	2670	113	766	445	157	1353	-6196	16	-5163	-19454	180
[illegible]	5122	4163	113	1664	757	0	791	-7248	8	--	--	--
115	5450	4336	122	2118	303	0	1308	-8169	11	-6401	-23867	0
[illegible]	5403	4686	126	2937	292	15	1734	-8595	10	-6931	-25758	0
125	6 26	4870	141	3490	142	14	1488	-9559	10	-7053	-27250	1
130	6109	4787	150	3552	-324	10	1859	-10334	9	-6800	-29521	2

[illegible]IONED NUMBER SIGNIFIES TENSION
[illegible] SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

STRAIN READINGS AND CALCULATED PRINCIPAL STRESSES

TEST CONDITION NO. 2

STATIC TEST OF TX-43 CLAMP RING JOINT

STRAIN - MICROINCHES PER INCH

UNCLASSIFIED

PERCENT LIMIT LOAD	ROSETTE 1 CH 3	CH 4	CH 5	ROSETTE 2 CH 6	CH 7	CH 8	ROSETTE 3 CH 9	CH 10	CH 11	ROSETTE 4 CH 12	CH 13	CH 14	ROSETTE 5 CH 15	CH 16	CH 17
020	30	-90	-180	-70	-180	-250	-70	-210	-410	-60	-250	-350	-20	-160	-2[illegible]0
030	30	-160	-310	-170	-290	-450	-90	-350	-670	-110	-390	-550	-50	-270	-4[illegible]0
040	70	-280	-630	-200	-410	-750	-50	-460	-930	-120	-520	-760	-50	-3[illegible]0	-6[illegible]0
050	120	-380	-1050	-200	-580	-1130	-30	-590	-1210	-110	-630	-990	-50	-500	-8[illegible]0
060	160	-520	-1410	-180	-750	-1500	-10	-760	-1530	-110	-760	-1250	-50	-630	-10[illegible]0
070	220	-630	-1760	-100	-810	-1820	20	-900	-1870	-90	-890	-1530	-30	-740	-13[illegible]0
080	260	-780	-2110	-70	-960	-2220	20	-1100	-2290	-70	-1100	-1910	10	-8[illegible]0	-15[illegible]0
090	320	-920	-2450	-110	-1100	-2670	10	-1330	-2770	-70	-1310	-2280	50	-1030	-18[illegible]0

STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 1 SU	SV	PHI	ROSETTE 2 SU	SV	PHI	ROSETTE 3 SU	SV	PHI	ROSETTE 4 SU	SV	PHI	ROSETTE 5 SU	SV	PHI
020	-621	-5432	4	-4366	-8948	6	-5770	-13601	175	-4830	-11717	9	-2891	-8409	5
030	-1768	-9332	3	-9303	-15718	176	-8723	-21948	177	-8146	-18490	8	-5423	-14[illegible]46	[illegible]
040	-3362	-19238		-12760	-25579	173	-9772	-29778	178	-10276	-25238	7	-6936	-20183	3
050	-5358	-32174	176	-16116	-37559	175	-11622	-38420	179	-12053	-32339	5	-9017	-27[illegible]	[illegible]
060	-7280	-43196	176	-18792	-49007	176	-13036	-48314	180	-14388	-40497	4	-10924	-34[illegible]	[illegible]
070	-8397	-53732	176	-18942	-58542	175	-15089	-58771	179	-16298	-49120	3	-12457	-41[illegible]	1
080	-10253	-64[illegible]	177	-21468	-70749	175	-19996	-72013	179	-18938	-60968	3	-13996	-50[illegible]	4
090	-11375	-74960	177	-26676	-85515	175	-24145	-87239	179	-22170	-72668	3	-14884	-58[illegible]	3

POSITIVE NUMBER SIGNIFIES TENSION

NUMBER SIGNED (-) SIGNIFIES COMPRESSION

SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)

SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)

PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

UNCLASSIFIED

PERCENT LIMIT LOAD

STRAIN - MICROINCHES PER INCH

	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	CH 18	CH 19	CH 20	CH 21	CH 22	CH 23	CH 24	CH 25	CH 26	CH 27	CH 28	CH 29	CH 30	CH 31	CH 32
20	-10	-70	-110	10	0	-10		30	30	-20	-10	20	0	-10	[illegible]
30	[illegible]	[illegible]	-230	-20	-10	-40	10	20	20	-40	-20	10	-10	-20	[illegible]
40	-70	-220	-370	-10	-60	-120	30	30	-10	-50	-20	10	0	-30	[illegible]
50	[illegible]	-290	-530	-20	-100	-230	50	50	-30	-30	-10	10	10	-30	[illegible]
60	-130	[illegible]	-690	-30	-180	-370	70	40	-90	-30	-20	-10	10	-50	[illegible]
[illegible]	-110	[illegible]	-870	-30	-240	-510	100	20	-170	0	-30	-10	20	-70	[illegible]
80	[illegible]	[illegible]	-1070	[illegible]	-290	-670	130	-20	-280	0	-40	-50	30	-110	[illegible]
[illegible]	-30	[illegible]	-1250	20	-300	-820	160	-60	-400	40	-40	-130	80	-160	-420

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
[illegible]	-1265	-3576	6	227	-227	0	--	--	--	507	-507	77	--	--	--
[illegible]	[illegible]	[illegible]	3	-704	-1718	148	766	445	113	-27	-1184	84	-751	-2074	[illegible]
[illegible]	[illegible]	[illegible]	0	-1371	-3876	177	1045	-238	157	-127	-1488	90	--	--	--
[illegible]	[illegible]	[illegible]	[illegible]	-2597	-7493	173	1697	-879	157	50	-857	90	-640	-3799	169
[illegible]	[illegible]	[illegible]	176	-4189	-11954	177	1736	-2543	164	-580	-1034	90	-1134	-5727	170
[illegible]	[illegible]	[illegible]	176	-5411	-16382	176	1894	-4719	169	--	--	--	-1413	-7669	171
[illegible]	[illegible]	[illegible]	[illegible]	-6740	-21509	175	1787	-7841	172	--	--	--	-1937	-10574	173
[illegible]	[illegible]	[illegible]	174	-6350	-25939	173	1652	-11338	174	115	-3747	178	-1186	-12535	[illegible]

[illegible] NUMBER SIGNIFIES TENSION

[illegible] (-) SIGNIFIES COMPRESSION

[illegible] THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)

[illegible] MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)

[illegible] LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 11 CH 33	CH 34	CH 35	ROSETTE 12 CH 36	CH 37	CH 38	ROSETTE 13 CH 39	CH 40	CH 41	ROSETTE 14 CH 42	CH 43	CH 44	ROSETTE 15 CH 45	CH 46	CH 47
020	-30	-30	-70	10	-30	-80	-50	-70	-70	-80	-90	-110	-50	-90	-170
030	-50	-50	-130	-10	-100	-200	-90	-180	-250	-160	-240	-360	-110	-240	[illegible]
040	-40	-70	-210	-40	-190	-370	-130	-290	-460	-190	-380	-610	-150	-410	-670
050	-40	-140	-310	-40	-280	-550	-160	-390	-690	-230	-560	-910	-150	-590	-1000
060	-40	-200	-440	-50	-370	-740	-180	-520	-950	-260	-730	-1210	-150	-770	-1360
070	-30	-270	-550	-30	-450	-950	-160	-650	-1210	-250	-890	-1510	-110	-960	-1740
080	-30	-350	-710	10	-540	-1180	-130	-770	-1480	-230	-1070	-1890	-150	-1200	-2210
090	50	-380	-860	70	-600	-1400	-100	-890	-1770	-250	-1290	-2290	-240	-1480	[illegible]

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 11 SU	SV	PHI	ROSETTE 12 SU	SV	PHI	ROSETTE 13 SU	SV	PHI	ROSETTE 14 SU	SV	PHI	ROSETTE 15 SU	SV	PHI
20	-1376	-2659	157	-386	-2439	177	-2101	-2742	23	-3475	-4192	171	-3005	-5874	171
30	-2349	-6915	157	-2080	-6395	178	-5032	-8689	4	-8180	-12806	174	-6985	-13597	177
40	-2748	-7541	164	-4515	-12031	177	-8161	-15649	179	-11358	-20927	177	-10649	-22445	0
50	-3899	-10226	173	-6112	-17699	178	-11089	-23214	176	-15288	-30718	179	-13560	-32857	1
60	-5060	-14312	174	-8095	-23786	178	-14010	-31593	177	-18888	-40436	180	-16743	-44197	1
70	-5789	-17618	178	-9302	-30247	178	-15710	-39578	178	-21223	-49805	0	-18928	-55831	1
80	-7207	-22697	178	-10075	-37142	178	-17197	-47817	179	-23952	-61605	0	-24255	-70387	1
90	-8009	-26610	178	-10102	-43573	177	-18767	-56700	178	-28114	-74392	1	-31246	-85577	0

POSITIVE NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

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STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 1 CH 3	ROSETTE 1 CH 4	ROSETTE 1 CH 5	ROSETTE 2 CH 6	ROSETTE 2 CH 7	ROSETTE 2 CH 8	ROSETTE 3 CH 9	ROSETTE 3 CH 10	ROSETTE 3 CH 11	ROSETTE 4 CH 12	ROSETTE 4 CH 13	ROSETTE 4 CH 14	ROSETTE 5 CH 15	ROSETTE 5 CH 16	ROSETTE 5 CH 17
[illegible]	0	0	10	0	20	10	0	0	20	0	10	10	20	20	0
[illegible]	0	[illegible]	[illegible]	0	10	0	0	0	20	0	0	20	10	20	0
[illegible]	0	0	0	0	20	10	0	0	30	0	20	30	10	20	10
[illegible]	0	0	0	0	10	0	0	0	20	0	10	40	20	30	20
[illegible]	-10	-20	-10	-20	0	0	0	0	10	0	0	20	20	20	10
[illegible]	0	-10	0	-10	0	0	0	10	10	0	10	10	0	10	10
[illegible]	-10	-10	-10	-30	0	0	0	10	20	0	0	30	20	20	0
[illegible]	-10	-10	-20	-30	[illegible]	0	0	10	10	0	10	30	20	30	30
[illegible]	0	-20	-30	-50		0	0	10	0	0	0	30	20	10	10
[illegible]	10	-50	-100	-30	[illegible]	-100	10	-10	-90	10	0	-40	10	0	-70
[illegible]	[illegible]	[illegible]	[illegible]	-20	-100	-150	30	-30	-130	20	-30	-60	50	0	-40
[illegible]	[illegible]	[illegible]	[illegible]	-20	-150	-210	40	-50	-170	40	-20	-100	40	-10	-60
[illegible]	40	[illegible]	[illegible]	-10	-150	-240	40	-60	-210	50	-30	-110	60	-10	-90
[illegible]	[illegible]	[illegible]	-310	0	-210	-310	40	-90	-280	60	-50	-160	60	-50	-120
[illegible]	[illegible]	[illegible]	-360	0	-230	-360	60	-110	-310	60	-50	-200	80	-40	-140
[illegible]	60	[illegible]	[illegible]	10	-210	-400	60	-130	-360	90	-60	-210	90	-40	-160
[illegible]	80	[illegible]	[illegible]	20	-240	-440	80	-150	-400	90	-70	-260	80	-50	-200
[illegible]	8	[illegible]	[illegible]	40	-260	-490	80	-180	-440	100	-80	-280	80	-60	-220
[illegible]	[illegible]	[illegible]	[illegible]	40	-260	-470	80	-190	-460	100	-80	-320	90	-70	-250
[illegible]	[illegible]	-16	[illegible]	70	-250	-460	80	-210	-470	100	-80	-350	110	-80	-280
[illegible]	50	[illegible]	[illegible]	0	-260	-440	30	-240	-470	90	-80	-370	90	-110	-340
[illegible]	[illegible]	[illegible]	[illegible]	-50	-290	-440	0	-260	-490	60	-90	-380	70	-130	-370
[illegible]	[illegible]	[illegible]	-170	-90	-290	-360	-10	-260	-460	10	-110	-370	0	-140	-360

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STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 1			ROSETTE 2			ROSETTE 3			ROSETTE 4			ROSETTE 5		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
030													724	83	157
040													560	-157	144
050													630	177	45
060													1034	560	45
070	-177	-630	45	-83	-724	113							766	445	157
080				-41	-362	113									
090	-404	-404		-124	-1086	113							724	83	157
100	-445	-766	157	-247	-964	99							1169	445	113
110				-348	-1670	105							766	[illegible]	23
120	-523	-3109	172	-1760	-3487	12	-292	-2937	165	56	-1267	165	157	-560	171
130	-692	-4554	178	-1917	-4943	6	-148	-3888	173	128	-1742	7	1229	-325	3
140	-910	-6354	0	-2345	-6937	10	-218	-5029	176	393	-2814	176	730	-1938	0
150	-947	-7528	179	-2375	-7714	6	-539	-6322	174	604	-3025	0	1099	-2310	174
160	-1477	-9419	179				-1151	-8535	175	477	-4513	0	880	[illegible]	[illegible]
170	-1269	-10838	3				-835	-9254	178	158	-5808	176	1294	-3716	3
180	-1269	-12856	2	-3208	-12532	2	-1269	-10838	177	981	-5824	0	1425	[illegible]	1
190	-1097	-13552	0	-3214	-13736	4	-1009	-11905	179	553	-7414	178	762	[illegible]	179
200	-2331	-16636	179	-3018	-15143	4	-1367	-13161	0	683	-7947	178	565	[illegible]	174
210	-1219	-15713	2	-2804	-14550	5	-1544	-13792	0	372	-9251	176	634	[illegible]	178
220	-963	-10746	2	-1731	-14008	6	-1623	-14116	2	160	-10249	174	994	[illegible]	179
230	-882	-8864	7				-3190	-14567	2	-259	-11041	173	-156	[illegible]	178
240	-1595	[illegible]	6	-5348	-14426	6				-1221	-11693	171	-1043	-11054	177
250	-369	-5104	2	-5682	-12479	13	-4349	-14618	3	-2672	-11857	170			

UNSIGNED NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

UNCLASSIFIED

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STRAIN - MICROINCHES PER INCH

[illegible]	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	CH 18	CH 19	CH 20	CH 21	CH 22	CH 23	CH 24	CH 25	CH 26	CH 27	CH 28	CH 29	CH 30	CH 31	CH 32
[illegible]	0	0	0	0	0	0	-10	0	0	-10	-70	-90	-10	-40	[illegible]
[illegible]	0	0	0	0	0	0	-20	-10	-10	-40	-130	-180	-30	-120	[illegible]
[illegible]	0	[illegible]	[illegible]	0	0	0	-10	-20	-10	-40	-170	-250	-50	-170	[illegible]
[illegible]	[illegible]	10	20	10	0	0	-30	-30	-20	-40	-200	-320	-50	-250	[illegible]
[illegible]	[illegible]	0	[illegible]	20	0	-10	-30	-50	-50	-60	-230	-430	-90	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	0	20	-10	-20	-20	-50	-50	-50	-260	-500	-120	-360	[illegible]
[illegible]	[illegible]	[illegible]	0	20	-10	-40	-40	-60	-70	-50	-300	-560	-140	-450	[illegible]
[illegible]	[illegible]	[illegible]	-10	30	-10	-50	-30	-70	-100	-50	-340	-650	-130	-460	[illegible]
[illegible]	[illegible]	0	-10	50	-10	-80	-30	-100	-130	-50	-380	-710	-130	-500	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-40	-120	-40	-110	-200	-30	-420	-830	-130	-550	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	80	[illegible]	-160	-30	-140	-230	-20	-460	-910	-130	-590	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	90	-50	-200	-30	-150	-260	-20	-500	-1000	-110	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	110	-50	-210	-10	-160	-290	-10	-550	-1100	-110	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	120	-60	-270	-30	-180	-350	-10	-600	-1200	-110	-730	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	130	-70	-300	-10	-200	-390	-10	-630	-1290	-90	-780	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	140	-60	-330	0	-210	-430	0	-670	-1370	-90	-820	-1810
[illegible]	[illegible]	[illegible]	[illegible]	170	-80	-340	10	-210	-460	-10	-710	-1470	-110	-870	-1900
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-400	0	-250	-500	-20	-790	-1570	-90	-930	-2070
[illegible]	[illegible]	[illegible]	[illegible]	190	[illegible]	-410	10	-200	-500	60	-550	-1200	0	-620	-1560
[illegible]	[illegible]	[illegible]	[illegible]	180	-100	-410	40	-160	-470	160	-270	-730	90	-310	-920
[illegible]	[illegible]	-11	[illegible]	[illegible]	-130	-430	40	-170	-490	150	40	-260	70	-110	-290
[illegible]	[illegible]	[illegible]	[illegible]	90	-140	-450	0	-180	-470	120	140	-40	60	-50	-70
[illegible]	[illegible]	[illegible]	[illegible]	-20	-170	-370	-110	-180	-360	90	290	290	-30	40	190

[redacted]

UNCLASSIFIED

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STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
30							-41	-362	113	-1004	-3032	13	-884	-3152	18
40							-445	-766	113	-2788	-6090	8	-2611	-6268	4
50							-177	-630	45	-3404	-8300	7	-3850	-8661	4
60	766	445	67	362	41	23	-849	-1169	67	-4057	-10472	4	-4485	-11457	9
70				560	-157	9	-1294	-1935	23	-5678	-14097	178	-6967	-15831	[illegible]
80	966	-157	144	507	-507	13	-931	-1894	23	-5984	-16213	178	-7985	-19972	0
90	930	177	0	277	-1084	0	-1861	-2578	9	-6524	-18094	179	-10963	-23337	3
100	683	-979	157	504	-1311	0	-1821	-3425	4	-7317	-20933	179	-11420	-27372	178
110	227	-227	0	873	-2084	178	-2007	-4450	11	-7851	-22820	0	-12371	-30811	178
120	532	-1339	173	519	-3344	2	-3014	-6671	176	-8278	-26429	179	-13646	-35559	176
130	708	-2118	174	1117	-4345	2	-2967	-7526	3	-8672	-28859	180	-14802	-40053	175
140	1361	-3018	172	1071	-5510	179	-3241	-8462	1	-9466	-31698	179	-15072	-43[illegible]	178
150	1506	-3120	174	1611	-5647	0	-2870	-9237	2	-10036	-34760	180	-16186	-47174	178
160	1149	-4374	179	1409	-7463	178	-4032	-11304	178	-10920	-37911	180	-17371	-53636	179
170	1231	-5265	174	1458	-8319	174	-3762	-12381	0	-11709	-40755	179	-17602	-54233	178
180	1598	-5913	175	2767	-8820	178							-18617	-59946	178
190	1647	-6374	175	2354	-7215	179	-3739	-14421	178	-13293	-46435	179	-20599	-63745	177
200	2601	-7[illegible]	177	2462	-10937	179				-14505	-49662	180	-21019	-66[illegible]	179
210	1254	-8114	177	2074	-11356	178	-4014	-15760	175	-8707	-37299	179			
220	927	-9[illegible]	176	2059	-11341	179	-2760	-14593	174	-1403	-21600	179	-[illegible]	-[illegible]	178
230	379	-10004	179	319	-12420	179	-2942	-15219	174	2905	-7344	168	-357	[illegible]	0
240	-747	-10[illegible]	179	-1074	-13455	176				4519	-1290	154	1593	-[illegible]	[illegible]
250	-2124	-1[illegible]	177	-3060	-11879	175	-6386	-12581	168	10875	4460	113	5363	574	[illegible]

[illegible] SIGNIFIES TENSION

[illegible] (-) SIGNIFIES COMPRESSION

[illegible] THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)

[illegible] THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)

[illegible] THE ANGLE [illegible] LARGEST ALGEBRAIC VALUE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

UNCLASSIFIED

[redacted]

UNCLASSIFIED

STRESS - POUNDS PER SQUARE INCH

PERCENT LIMIT LOAD	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14			ROSETTE 15		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
[illegible]	-897	-2331	9	-1514	-3329	0	-1107	-2121	148	-1252	-1573	113	-348	-1676	69
40	-1390	-4259	9	-2263	-4598	165	-1099	-3744	150	-1656	-1976	157	-569	-1852	67
[illegible]	-1802	-6269	12	-2867	-5608	168				-1238	-2394	141	-569	-1852	67
[illegible]	-276	-8743	6	2978	-7514	0				-1054	-1771	144	-1234	-2324	26
[illegible]	-2597	-13774	2	-4331	-11912	173	-1794	-7084	165	-1704	-3139	144	-2371	-3271	96
[illegible]	-7127	-18278	3	-5886	-15907	177	-2599	-9508	168	-2051	-4002	153	-2668	-3385	81
[illegible]	-9193	-[illegible]	2	-6963	-19672	179	-4081	-13272	172	-3836	-7060	160	-3659	-4814	141
[illegible]	-16663	-27676	0	-8772	-25128	178	-6062	-18555	172	-4821	-9707	169	-4688	-6612	157
110	-12289	-32567	178	-10199	-30156	0	-7917	-22351	176	-6165	-13207	173	-5436	-5693	165
[illegible]	-11[illegible]	-[illegible]	179	-10717	-34079	0	-8530	-25369	178	-5681	-15304	176	-4352	-10586	175
[illegible]	-12[illegible]	-[illegible]	179	-12252	-38597	179	-9142	-29600	178	-6246	-18371	176	-5045	-13515	177
[illegible]	-12962	-[illegible]	179	-12961	-41135	179	-9910	-33272	180	-7483	-21574	179	-5651	-15728	179
[illegible]	-13742	-[illegible]	177							-8242	-25254	180	-5809	-18003	175
[illegible]	-14486	-[illegible]	178							-9546	-30004	178	-6560	-20883	175
[illegible]	-16[illegible]	-[illegible]	179				-12626	-47101		-10762	-33227	179	-6509	-22547	174
[illegible]				-15796	-50478	0	-12652	-50395		-11101	-36520	179			
[illegible]	[illegible]	[illegible]	178	-17551	-56794	179	-14521	-54893		-12462	-40405	179			
[illegible]	[illegible]	[illegible]	179	-18167	-71020	180	-15300	-59764	1	-13082	-44628	179			
[illegible]	[illegible]	[illegible]	177	-7078	-46999	0	-5985	-38004	1	-6186	-27310	179	-3204	-19395	174
[illegible]	[illegible]	[illegible]	1	-327	-24050	2	1676	-15801	179	813	-8884	175	1870	-7117	175
[illegible]	[illegible]	[illegible]	1	1001	-1015	3	1128	486	157	2039	-1232	107	-1339	-2297	137
[illegible]	[illegible]	[illegible]	3	986	-1369	73	2572	-150	90	1838	-1031	99	-1968	-2375	69
[illegible]	[illegible]	[illegible]	3	1990	-2383	76	2744	-726	84	2522	-504	96	-437	-2385	108

[illegible] TENSION

[illegible] (-) [illegible] COMPRESSION

[illegible] THE [illegible] STRESS (LARGEST ALGEBRAIC VALUE)

[illegible] THE [illegible] STRESS (SMALLEST ALGEBRAIC VALUE)

[illegible] TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

UNCLASSIFIED

[redacted]

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT L 40	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14			ROSETTE 15		
	CH 33	CH 34	CH 35	CH 36	CH 37	CH 38	CH 39	CH 40	CH 41	CH 42	CH 43	CH 44	CH 45	CH 46	CH 47
[illegible]	-1[illegible]	-5[illegible]	-70	-20	-60	-100	-30	-20	-50	-40	-30	-30	-40	-50	[illegible]
[illegible]	-1[illegible]	-[illegible]	-13[illegible]	-40	-60	-130	-30	-10	-90	-40	-40	-50	-50	-50	-10
[illegible]	-1[illegible]	-1[illegible]	-1[illegible]	-50	-80	-160	0	-10	-110	-40	-20	-50	-50	-50	-10
[illegible]	-2[illegible]	-1[illegible]	-2[illegible]	-[illegible]	-130	-230	0	-10	-160	-30	-20	-40	-70	-50	-20
[illegible]	-[illegible]	-2[illegible]	-4[illegible]	-40	-160	-360	-10	-50	-210	-50	-30	-70	-90	-70	-50
[illegible]	-7[illegible]	-3[illegible]	-56[illegible]	-50	-250	-490	-10	-90	-290	-50	-40	-100	-90	-80	-60
[illegible]	-7[illegible]	-[illegible]	-68[illegible]	-50	-320	-610	-20	-160	-410	-80	-90	-190	-100	-80	-110
[illegible]	-1[illegible]	-[illegible]	-85[illegible]	-60	-400	-780	-40	-230	-570	-80	-140	-280	-110	-110	-170
[illegible]	-11[illegible]	-[illegible]	-10[illegible]	-60	-500	-940	-60	-330	-690	-90	-200	-390	-110	-140	-250
[illegible]	-[illegible]	-[illegible]	-11[illegible]	-40	-560	-1070	-50	-390	-790	-50	-230	-470	-50	-160	-320
[illegible]	-[illegible]	-6[illegible]	-127	-50	-60[illegible]	-1210	-30	-450	-930	-40	-270	-570	-50	-180	-410
[illegible]	-[illegible]	-[illegible]	-14[illegible]	-3[illegible]	-680	-1360	-20	-530	-1050	-50	-340	-670	-50	-210	-480
[illegible]	-1[illegible]	-7[illegible]	-155	0	-740	-1520	0	-590	-1210	-40	-410	-790	-30	-250	-560
[illegible]	-[illegible]	-[illegible]	-171	0	-810	-1670	0	-680	-1350	-40	-460	-940	-30	-280	-650
[illegible]	-[illegible]	-[illegible]	-18[illegible]	0	-870	-1790	20	-740	-1500	-50	-530	-1040	-10	-310	-710
[illegible]	[illegible]	-[illegible]	-[illegible]	60	-950	-1930	50	-790	-1610	-30	-570	-1150	0	-320	-790
[illegible]	-[illegible]	-1[illegible]	-21[illegible]	[illegible]	-1010	-2130	30	-860	-1750	-40	-620	-1270	0	-360	-870
[illegible]	-[illegible]	-1[illegible]	-23[illegible]	[illegible]	-1090	-2270	50	-950	-1910	-20	-690	-1410	0	-400	-970
[illegible]	[illegible]	-[illegible]	-1[illegible]	[illegible]	-6[illegible]	-1550	160	-580	-1250	50	-390	-880	70	-210	-6[illegible]
[illegible]	1	-[illegible]	-[illegible]	[illegible]	-7[illegible]	-7[illegible]	210	-160	-560	110	-60	-310	130	-30	-2[illegible]
[illegible]	[illegible]	-[illegible]	-1[illegible]	[illegible]	-50	-110	30	30	10	-50	50	70	-30	-30	-[illegible]
[illegible]	[illegible]		[illegible]	-[illegible]	-[illegible]	-[illegible]	-30	30	90	-50	30	70	-60	-40	-[illegible]
[illegible]	-[illegible]		1[illegible]	-[illegible]	-50	80	-50	10	100	-40	40	90	-70	-10	[illegible]

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STRAIN READINGS AND CALCULATED PRINCIPAL STRESSES
TEST CONDITION NO. 4
STATIC TEST OF TX-43 CLAMP RING JOINT

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

PERCENT LIFT LOAD	ROSETTE 1 CH 3	CH 4	CH 5	ROSETTE 2 CH 6	CH 7	CH 8	ROSETTE 3 CH 9	CH 10	CH 11	ROSETTE 4 CH 12	CH 13	CH 14	ROSETTE 5 CH 15	CH 16	CH 17
010	-10	-10	30	0	80	80	-30	20	GAGE	10	30	50	-30	0	20
020	-30	0	50	0	110	90	-40	-20	OUT	70	40	40	0	30	40
030	-10	0	0	-10	50	40	0	0		80	120	70	180	140	250
040	0	-30	-90	20	80	-10	20	30		160	110	150	340	320	330
050	10	-80	-240	60	70	-140	10	-20		350	280	230	440	390	300
060	50	-120	-440	90	50	-290	180	0		460	440	300	580	420	260
070	80	-180	-580	90	0	-390	320	100		540	520	300	690	470	230
080	110	-240	-710	80	-70	-440	380	170		620	600	280	790	520	210

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 1 SU	SV	PHI	ROSETTE 2 SU	SV	PHI	ROSETTE 3 SU	SV	PHI	ROSETTE 4 SU	SV	PHI	ROSETTE 5 SU	SV	PHI
010	1045	-238	67							1644	757	90	376	-780	90
020	1339	-532	83							2701	1738	23			
030	-41	-342	113	1581	-370	117				4054	2000	138	10554	6799	58
040				1937	-1533	141				7282	5228	42	13878	13161	36
050	-1697	-7585	172	1757	-4986	156				13083	10324	5	16715	13956	179
060	-2120	-13619	173	1495	-9526	161				17604	13067	162	20579	13821	0
070	-2438	-17740	174	366	-12473	164				20493	13407	160	23786	13343	179
080	-2709	-21505	176	-861	-13667	169				23303	13018	159	26771	13505	178

UNSIGNED NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

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STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	CH 18	CH 19	CH 20	CH 21	CH 22	CH 23	CH 24	CH 25	CH 26	CH 27	CH 28	CH 29	CH 30	CH 31	CH 32
010	0	30	50	20	40	90	-40	-10	60	-20	-120	-130	0	-90	-140
020	110	60	150	190	240	140	-50	0	120	0	130	-270	40	-110	-460
030	200	250	300	320	340	300	-70	40	150	70	-200	-420	60	-150	-500
040	300	220	300	300	340	290	-60	80	60	170	-170	-460	150	-150	-600
050	400	310	340	470	310	240	0	150	0	250	230	-580	230	-190	-720
060	620	330	290	560	310	210	90	180	-110	320	-350	-810	290	-260	-900
070	730	330	260	640	320	180	180	210	-170	380	-430	-960	340	-310	-1050
080	820	340	230	690	320	150	240	210	-220	410	-510	-1150	360	-410	-1400

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 6			ROSETTE 7			ROSETTE 8			ROSETTE 9			ROSETTE 10		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
010				3083	1334	78	1625	-818	79	-1415	-4639	20			
020	6898	3595	93	8452	4866	144	3497	-672	79				-2087	-12846	171
030	16036	11386	60	13228	11793	144	3490	-1069	93	-1477	-12648	3	-2582	-14709	172
040	17469	13606	47	14546	12498	177	2268	-2260	117	1315	-13019	2	-406	-17754	170
050	19675	13821	27	17127	11526	11				6336	-19653	158	734	-21719	170
060	23057	13667	19	19056	11219	12	4466	-5273	149	8481	-22852	5	594	-28709	170
070	26489	13464	18	22148	10944	11	6315	-5912	155	9599	-27809	5	-93	-36691	170
080	29085	13290	16	23400	10419	10	7317	-6509	159	9042	-32906	5	-1241	-42748	170

UNSIGNED NUMBER SIGNIFIES TENSION
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SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

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STRAIN - MICROINCHES PER INCH

LOAD	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14			ROSETTE 15		
	CH 33	CH 34	CH 35	CH 36	CH 37	CH 38	CH 39	CH 40	CH 41	CH 42	CH 43	CH 44	CH 45	CH 46	CH 47
010	10	-110	-210	0	-100	-210	10	-80	-200	0	-70	-160	-40	-80	[illegible]
020	-30	-290	-460	-30	-250	-370	10	-120	-210	10	-80	-190	0	0	[illegible]
030	-20	-330	-570	-10	-290	-460	60	-140	-290	70	-80	-260	30	-60	[illegible]
040	0	-370	-640	0	-290	-520	90	-130	-430	130	-80	-310	90	-40	[illegible]
050	60	-370	-750	40	-360	-620	130	-180	-500	180	-100	-450	180	-100	[illegible]
060	100	-470	-1020	70	-460	-910	180	-310	-890	240	-200	-710	250	-110	[illegible]
070	130	-540	-1300	120	-550	-1190	220	-430	-1180	290	-270	-950	310	-140	[illegible]
080	140	-670	-1940	110	-640	-1450	230	-560	-1500	330	-300	-1200	330	-190	[illegible]

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 11			ROSETTE 12			ROSETTE 13			ROSETTE 14			ROSETTE 15		
	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI	SU	SV	PHI
010	-1530	-6541	3				-1428	-6240	176				-1819	-5042	[illegible]
020	-5574	-15008	5	-4734	-12216	7	-2361	-9746	175	-1359	-5912	177			[illegible]
030	-5544	-18264	6	-4230	-14797	7	-1524	-11793	177	-76	-7592	177	-484	[illegible]	[illegible]
040							-894	-12827	176	1363	-8627	179	731	[illegible]	[illegible]
050	-4720	-23126	2	-4052	-19355	6	-964	-17194	176	1740	-12637	177	2315	-10986	6
060	-5841	-31267	1	-5799	-28100	2	-2149	-26504	178	1919	-20286	178	2911	[illegible]	[illegible]
070	-7382	-39835	179	-6731	-36451	1	-3494	-35208	178	810	-27446	177	3352	[illegible]	[illegible]
080	-9186	-47314	179	-9335	-44743	179	-5934	-45319	178	-159	-34951	178	2469	-26279	[illegible]

UNSIGNED NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
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SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

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TABLE IX

T-17356

STRAIN MEASURINGS AND CALCULATED PRINCIPAL STRESSES
TEST CONDITION NO. 5
OF THE TEST OF TX-43 SLIP RING JOINT

UNCLASSIFIED

STRAIN - MICROINCHES PER INCH

FLIGHT TIME LOAD	ROSETTE 1 CH 1	CH 2	CH 3	ROSETTE 2 CH 4	CH 5	CH 6	ROSETTE 3 CH 7	CH 8	CH 9	ROSETTE 4 CH 10	CH 11	CH 12	ROSETTE 5 CH 13	CH 14	CH 15
.20	-70	-70	-40	-40	-50	-110	-50	-70	-130	-40	-90	-170	-50	-110	-170
.30	-70	-50	-60	-40	-80	-160	-60	-130	-250	-60	-190	-380	-60	-220	-340
.40	-60	-70	-40	-40	-100	-330	-80	-310	-500	-30	-330	-720	-40	-380	-720
.50	-10	-140	-270	-20	-280	-620	-120	-500	-840	0	-470	-1050	-10	-540	-1030
.60	80	-170	-430	0	-440	-960	-70	-690	-1200	50	-640	-1420	30	-730	-1380
.70	190	-210	-620	10	-580	-1250	-20	-870	-1500	90	-770	-1740	80	-880	-2090
.80	310	-230	-810	30	-790	-1610	10	-1080	-1920	140	-970	-2210	120	-1100	-2110
.90	370	-250	-950	50	-910	-1870	50	-1220	-2230	170	-1100	-2500	140	-1250	-2400
1.00	460	-310	-1100	50	-1050	-2140	80	-1380	-2580	190	-1250	-2880	160	-1440	-2760
1.10	610	-360	-1290	70	-1230	-2490	130	-1570	-3000	240	-1420	-3300	200	-1690	-3190
1.20	750	-440	-1450	70	-1420	-2840	150	-1800	-3540	260	-1620	-3820	200	-2020	-3600

STRESS - POUNDS PER SQUARE INCH

FLIGHT TIME LOAD	ROSETTE 1 SU	SV	PHI	ROSETTE 2 SU	SV	PHI	ROSETTE 3 SU	SV	PHI	ROSETTE 4 SU	SV	PHI	ROSETTE 5 SU	SV	PHI
.20	-1738	-2771	67	-2051	-4002	162	-2618	-4646	167	-2724	-5750	174	-3078	-5000	[illegible]
.30	-2265	-2982	126	-2601	-5470	171	-4027	-8483	173	-5186	-12571	175	-5065	-11885	[illegible]
.40	-934	-2275	45	-3654	-11278	165	-6919	-16488	3	-7243	-23025	176	-7624	-23047	[illegible]
.50	-2701	-3578	0	-6050	-19779	176	-11193	-27549	2				-9409	-32562	[illegible]
.60	-1278	-1[illegible]847	179				-12751	-38502	3	-10943	-44346	178	-11202	-43279	[illegible]
.70	510	-17865	180	-10703	-39339	178	-13703	-47639	4	-12504	-54085	178	-12343	-52632	[illegible]
.80	2620	-22799	179	-13283	-50480	0	-16471	-60611	4	-15078	-68460	178	-14754	-65956	[illegible]
.90	3312	-26511	179	-14951	-59498	0	-17965	-70019	3	-16701	-77930	179	-16670	-74836	[illegible]
1.00	4783	-31611	179	-17337	-67009	0	-20134	-80755	3	-19398	-89162	178	-18997	-85123	[illegible]
1.10	7513	-35359	0	-19796	-77867	0	-22284	-93539	2	-21523	-101968	178	-21635	-99031	[illegible]
1.20	9072	-[illegible]	2	-22804	-88904	1	-26490	-110319	2	-25424	-118246	178	-25764	-114677	[illegible]

UNSIGNED NUMBER SIGNIFIES TENSION
NUMBER SIGNED (-) SIGNIFIES COMPRESSION
SU IS THE MAXIMUM PRINCIPAL STRESS (LARGEST ALGEBRAIC VALUE)
SV IS THE MINIMUM PRINCIPAL STRESS (SMALLEST ALGEBRAIC VALUE)
PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

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(40)

STRAIN - MICROINCHES PER INCH

PERCENT LIMIT LOAD	ROSETTE 6 CH 16	CH 17	CH 18	ROSETTE 7 CH 19	CH 20	CH 21
020	-40	-60	-80	-70	-40	-40
030	-40	-120	-260	-40	-60	-50
040	-30	-240	-570	-60	-120	-120
050	-10	-370	-850	0	-170	-260
060	10	-600	-1150	90	-190	-380
070	40	-610	-1410	180	-220	-500
080	60	-790	-1770	290	-230	-620
090	80	-900	-2020	350	-240	-730
100	80	-1030	-2300	420	-260	-830
110	80	-1250	-2740	510	-310	-1010
120	90	-1500	-3190	580	-350	-1170

STRESS - POUNDS PER SQUARE INCH

	ROSETTE 6 SU	SV	PHI	ROSETTE 7 SU	SV	PHI
020	-1968	-2675		-1738	-2701	113
030	-3467	-8640	172	-1457	-2175	36
040	-5834	-18380	174	-2670	-4594	23
050	-7731	-26976	176			
060	-9724	-36283	176	-425	-11279	5
070	-11113	-44176	177	1374	-14288	5
080	-13700	-55310	178	3766	-17083	4
090	-15278	-63014	178	4632	-19968	3
100	-17745	-71847	178	5957	-22503	3
110	-21643	-85746	178	7202	-27380	2
120	-25650	-99859	179	7980	-31790	2

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PHI IS THE ANGLE FROM LOWEST NUMBERED GAGE IN ROSETTE TO SU MEASURED OPPOSITE TO SYSTEM OF GAGES

[redacted]

T-17356

TABLE X

Uniaxial Strain-Gage Readings (microinches/inch)
Static Test of TX-43 Clamp-Ring Joint

Percent Limit Load	Condition No. 2 Gage No. 1	Condition No. 2 Gage No. 2	Condition No. 3 Gage No. 1	Condition No. 3 Gage No. 2	Condition No. 4 Gage No. 1	Condition No. 4 Gage No. 2
0	0	0	0	0	0	0
20	-20	0	-	-	-70	-70
30	-60	-10	0	0	-50	-30
40	-60	0	-10	-10	0	30
50	60	80	-30	-10	90	130
60	190	220	-30	-20	240	280
70	400	390	-50	-40	350	380
80	610	550	-50	-50	460	440
90	760	680	-70	-60	*	*
100	*	*	-60	-50		
110			-60	-60		
120			20	-30		
130			40	-10		
140			60	0		
150			90	20		
160			120	20		
170			150	30		
180			190	80		
190			210	90		
200			240	110		
150			200	120		
170			[illegible]	160		
[illegible]			[illegible]	[illegible]		
[illegible]			[illegible]	[illegible]		

0-107

42