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SEP 14 6

3428-3

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
1st Review Date: 8/11/98
Authority: ADD
Name: R B Cramer
2nd Review Date: 8/20/98
Authority: ADD
Name: W Layne
Determination (Circle Number):
1. Classification Retained
2. Classification Changed to: U
3. Contains No DOE Classified Information
4. Coordinate With:
5. Contains UCAI? NO
6. Comments:
DECLASSIFY

DEC 5 1955
Case No. 690.00
Ref. Sym: 1612 (241)
Project No. TM-312
TX-28, 3-2

Upgraded to SRD per S-4723-2 NA (2325) 7/27/59

RECEIVED
DEC 5 1955
R & D FILES

MR. S. A. MOORE - 1326

Attn: Mr. J. H. Davis - 1326

Re: Static Lug and Sway Brace Load Test of TX-28 Mockup Unit

Summary of Results

The test cylinder, which had been designed to simulate one possible configuration near the aft lug of the TX-28 store, was statically tested to eight separate loading conditions plus a final loading to failure. The eight loading conditions, five of which were 115 percent of design limit load, and three of which were 150 percent of design limit load, produced no noticeable damage to the test article. Near the end of testing, a modified version of one of the latter three conditions was extended to 210 percent of design limit load without producing failure. The loading condition which produced failure of the threads on the lug and in the cylinder consisted of a vertical lug load (up) of 53,520 pounds (230 percent of limit load) and a sway brace load of about 80,000 pounds (about 225 percent of limit load). Maximum and minimum principal strain data was obtained at critical points on the cylinder.

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Object of Test

This test was an exploratory test to determine the effect of various combinations of radial and longitudinal loads on the strength of a cylindrical shell. It should provide information on which types of loading are critical and on the magnitude of loads which can safely be supported by the test article.

RECEIVED
AUG 13 1959
CENTRAL RECORD FILE

Reason for Test

The test was performed in accordance with instructions from the consultant and the Work Order Authorization dated June 27, 1955 from Division 1326 to Division 1612. Mr. A. C. Wilson from Division 1282 was consultant.

Function of Object Tested

The test article is a mockup of the TX-28 weapon case in the region of the aft lug and contains a portion of the warhead. It is the structural element which supports the aft lug and sway brace loads.

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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP

CLASSIFICATION CHANGED TO: U	AUTHORITY: W. C. Layne
Emelda Selph 8/25/98	RECORD ID: 98SN3785
PERSON CHANGING MARKING & DATE	
WC Layne 8/25/98	DATED: 8/20/98
PERSON VERIFYING MARKING & DATE	

[redacted]

ACCOUNTABILITY CARD
TX-28
3-2

2108/2 (1615)

Summary of Past Tests

No previous tests have been performed on this test article.

Setup for Test

The cylinder was held at one end by the mounting ring which in turn was bolted to the vertical plate in the static jig. The method for applying the vertical, horizontal, and inclined (sway brace) loads is shown in Figs. 1, 2, and 3. The light plastic inner liner shown in Figs. 1, 2, and 3 was removed before any loads were applied at the suggestion of the consultant.

Following are the component parts of the test article:

Name of Component	Drawing Number
Spacer	SK(1326)49416
Nut, Lug	SK(1326)49417
Bushing, Lug	SK(1326)49418
Lug, Suspension	SK(1326)49419
Ring, Mounting	SK(1326)49420
Cylinder	SK(1326)49421
Test Cylinder	SK(1326)49422

The following equipment was used during the test:

4 - SR-4 Baldwin Strain Indicators, Serial Numbers J-59191, J-59252, J-59101, 199375.
1 - 7-1/2-ton Blackhawk ram and pump.
1 - 60-ton Simplex ram and pump.
1 - 1-inch diameter pull rod; 100 inches long; sensitivity = 0.11 microinches/inch/pound.
1 - 3/4-inch diameter pull rod; Serial No. 16, 40 inches long; sensitivity = 0.186 microinches/inch/pound.
1 - Load cell; 100,000 pounds cap.; Serial No. 100-673; sensitivity = 0.0393 microinches/inch/pound.
1 - Load cell; 50,000 pounds cap.; Serial No. 1114; sensitivity = 0.081 microinches/inch/pound.
1 - Load cell; 10,000 pounds cap.; Serial No. 658; sensitivity = .793 microinches/inch/pound.
1 - Sadic Automatic Data Processing System, Model 34-112M1.

The following instrumentation was used during the test:

Stresscoat No. 1207; sensitivity at time of test = 800 microinches per inch.

14 - AR-7-2 Rosettes; Res. = 120 ohms; G.F. = 1.85 ± 1%; cross sensitivity = -0.01; Lot No. 232-11.
2 - Starrett dial indicators, graduated to 0.001 inch with a range of 1.0 inch.

Procedure

Stresscoat No. 1207 was applied to the outside of the cylinder and after about 24 hours the cylinder was mounted to the vertical plate in the static jig by means of the mounting ring. The initial loading on the cylinder was 19.2 percent of design limit load for Condition 1 shown in Table I. This initial loading consisted of 2,330 pounds (vertical upward) 3,000 pounds (horizontal) outward from support, and 1,170 pounds on the sway brace (inclined 20° from vertical). After the initial loading, the test article was unloaded and inspected for Stresscoat cracks. This procedure was repeated several times with each succeeding load being 1.2 times the previous load until a loading which was 69% design limit load of Condition 1 in Table I was reached.

Based upon the location and direction of the Stresscoat cracks and upon suggestions by the consultant, fourteen AR-7-2 rosettes were placed on the cylinder at locations where large stresses would be likely to occur. The locations of these rosettes are shown on Figs. 4 and 5. Note that the gages on the inside (Fig. 5) are directly opposite those in Fig. 4. To measure "out of roundness" of the cylinder at the loaded end, two dial indicators were mounted on the inside of the cylinder such that one indicator measured "out of roundness" along a horizontal diameter and the other dial indicator measured "out of roundness" along a vertical diameter.

Following is the sequence of loading after completion of the Stresscoat test. References to condition numbers refer to the conditions listed in Table I. The load pad with a diameter of 2.25" was used for all the sway brace loads, and the lug without a bushing was used for all vertical loads.

(a) The first loads were applied according to Condition 2 in the following percentages of the design limit loads: 28.8, 46, 63.2, 80.5, 97.7, and 115. The strain readings were tabulated by the Sadic after each load increment in this condition and all subsequent conditions except the loading which produced failure.

(b) The loads were applied according to Condition 3 in the following percentages of the design limit load: 28.8, 46, and 63.2. The loading was discontinued at 63.2 percent of design limit load at the suggestion of the consultant as some of the strains indicated the material might be near the yield point.

(c) The loads were applied according to Condition 1 in the following percentages of the design limit load: 28.8, 46, 63.2, 80.5, and 97.7. The loading was discontinued at 97.7 percent of design limit load at the suggestion of the consultant as some of the strains indicated the material was near the yield point.

(d) The load was applied according to Condition 4a in the following percentages of the design limit load: 28.8, 46, 63.2, 80.5, 97.7, and 115.

(e) The loads were applied according to Condition 3 in the following percentages of the design limit load: 28.8, 46, 63.2, 80.5, 97.7, and 115. This loading was identical to that listed in paragraph (b), above, except the loading was continued to 115 percent of the design limit load in the latter case.

(f) The loads were applied according to Condition 1 using only one increment, 115 percent of design limit load. The other increments of Condition 1 were applied as listed in paragraph (c), above.

(g) The loads were applied according to Conditions 4 and 8 in the following percentages of design limit load: 28.8, 46, 63.2, 80.5, 97.7, 115, 132.5, and 150. Condition 4 and 8 are the same type of loading with Condition 4 being 115 percent and Condition 8 being 150 percent of the design limit load. The sway brace pad was erroneously loaded to 57,300 pounds instead of the correct load of 53,500 pounds, this component of load thereby was 160 percent of design limit load.

(h) The loads were applied according to Condition 7 in the following percentages of the design limit load: 105, 127.5, and 150. These represent closely a linear extension of the loads in Condition 3 as listed in paragraph (e), above.

(i) The loads were applied according to Condition 5 in the following percentages of the design limit load: 105, 127.5, and 150. This loading condition is quite similar to condition 1 as listed in paragraphs (c) and (f), above.

(j) The loads were applied according to Condition 7 in the following percentages of design limit load: 150, 165, and 180. At 180 percent of design limit load, the sway brace pad slipped out due to excessive deflection of the cylinder. The loading was continued without a sway brace load. At 195 percent of design limit load the cylinder had deflected to the extent that excessive bending was being produced on the horizontal pull bar and the horizontal load was omitted from further loading. The vertical load was applied to about 210 percent of design

limit load at which value the vertical pull rod began to indicate its stresses were beyond the proportional limit. No additional loads were applied for this condition. All strain readings were discontinued at 180 percent of design limit load.

(k) The loads were applied according to Condition 8, up to about 230 percent of design limit load with no instrumentation.

Results

The cylinder when loaded to failure with loads proportional to those in Condition 8, failed when the vertical lug load reached 230 percent of design limit load (53,520 pounds) and when the sway brace load reached about 225 percent of design limit load (about 80,000 pounds). The threads on the lug (without bushing) and the threads in the cylinder failed as shown on Figs. 6, 7, and 8.

The eight other loading conditions produced no noticeable damage to the test article. The maximum and minimum principal strains were computed from the rosette readings for each loading condition and for each increment of load. The greatest values of maximum and minimum principal strains for each loading condition are shown in a summary in Table II. The greatest value of strain during the test could not be measured since the strain went beyond the limit of the gages which is about 10,000 microinches per inch. The gage measuring the greatest strain failed between 127.5 and 150 percent of the design limit load of Condition 7, which means the strain had exceeded 10,000 microinches per inch at this load increment.

The maximum and minimum principal strains for each loading condition and each increment of load are shown in Tables III, IV, V, VI, VII, VIII, IX. The results of the test are shown in strains rather than stresses because many of the strain readings indicate stresses beyond the proportional limit of the steel. The steel cylinder is 4,140 steel (H.T. 140,000 - 160,000 psi) with a yield point of about 125,000 psi.

The "out of roundness" of the cylinder at the loaded end along a horizontal and a vertical diameter is shown in Table X for the various loading conditions. The maximum measured change in the horizontal diameter was a decrease of 0.232 inches produced by 150 percent of design limit load, Condition 7. The maximum measured change in the vertical diameter was an increase of 0.400 inches produced by 150 percent of design limit load, Condition 7. No deflection measurements were taken for any loadings which extended beyond 150 percent of design limit load. Load-deflection curves are shown on Figs. 9, 10, 11, 12, 13, 14, and 15.

The Stresscoat cracks and designations, which resulted from the loading of the cylinder to 60 percent of Condition 1, are shown in Fig. 16. The loads and

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corresponding Stresscoat designations are shown in Table XI. No stresses have been computed from the Stresscoat data since these markings were used only for consideration in placing the strain gages.

Conclusions

It is concluded that the cylinder and lug as tested to 150% design limit load have adequate strength for the eight loading conditions.

Harry P. Wheeler
HARRY P. WHEELER - 1612-2

Approved by: Paul H. Adams
PAUL H. ADAMS - 1612

HPW:1612-2:as

Copy to:
T. B. Morse, 1610
W. A. Gardner, 1282
R. E. Fisher, 1621
C. L. Gomel, 5523
R. K. Smeltzer, 1922-2
F. C. Hale, 1922-3

Dist. as Scout -
1/2A - C.R.F. 3421-3
2/2A - 1610

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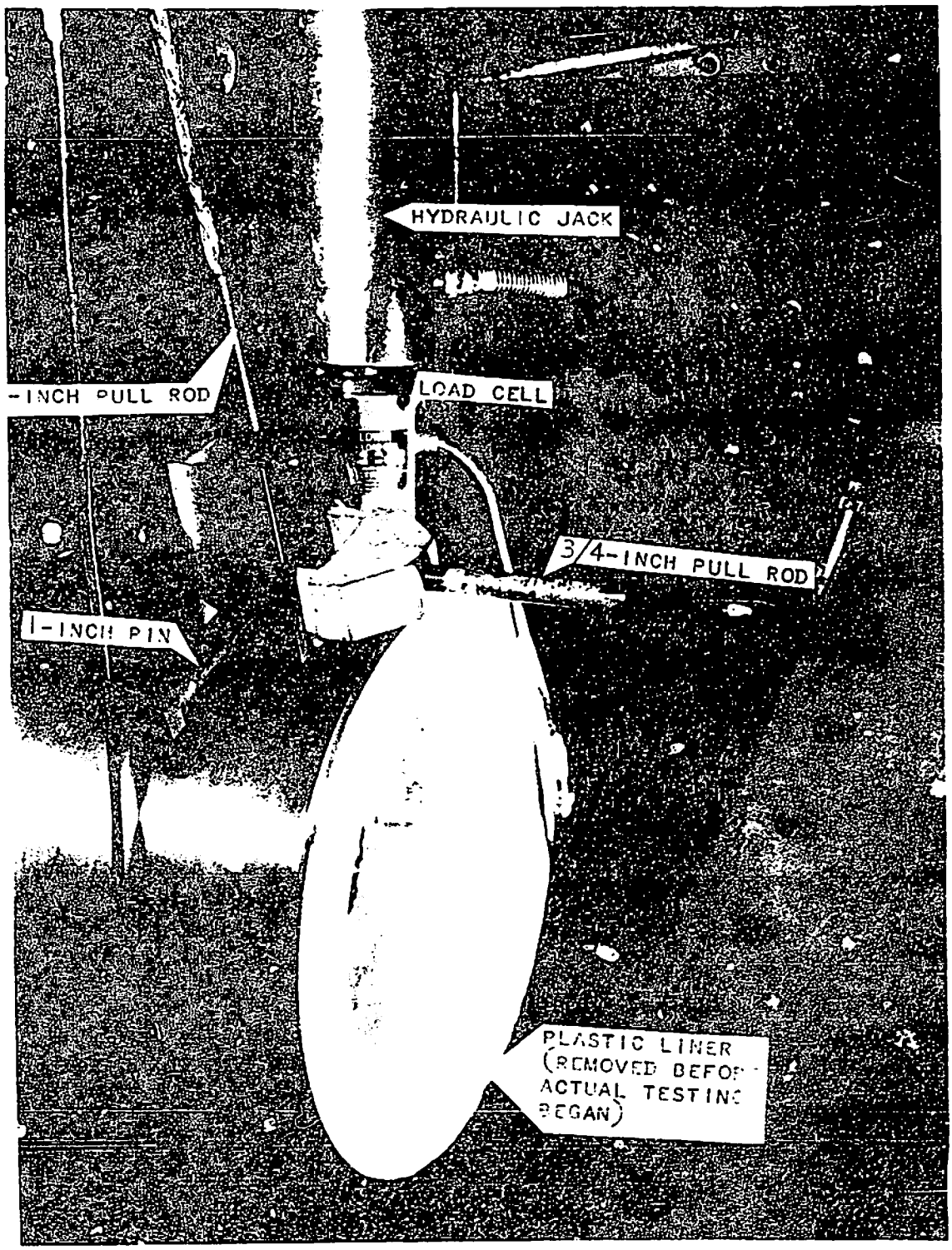

FIG. 1--TEST SETUP FOR CONDITIONS 1, 3, 5, AND 7--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

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TM-312
REF. SYM: 1612 (241)

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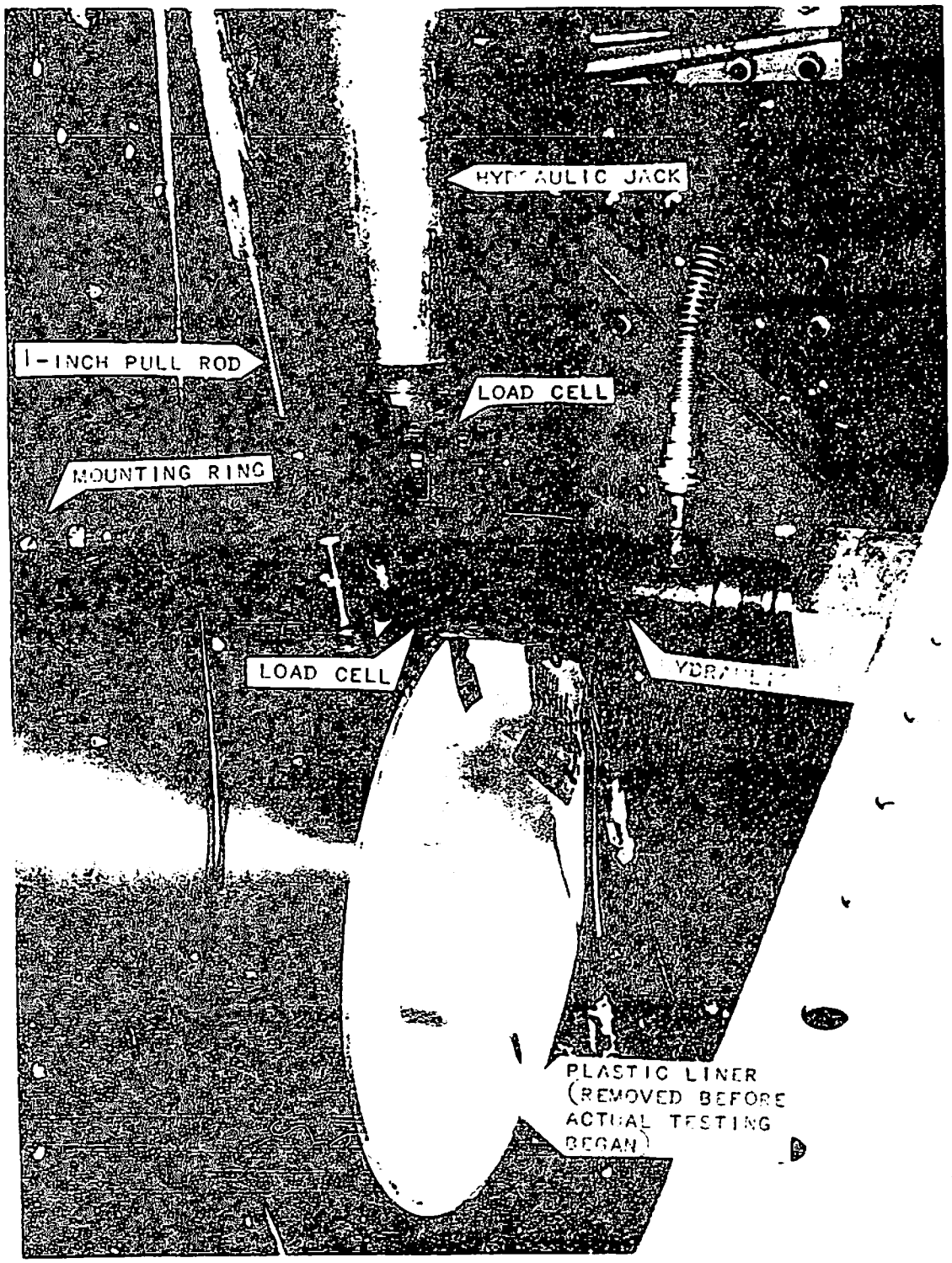

FIG. 2--TEST SETUP FOR CONDITIONS 2 AND 6--STATIC UPLIFT
TEST OF TX-28 MOCKUP UNIT

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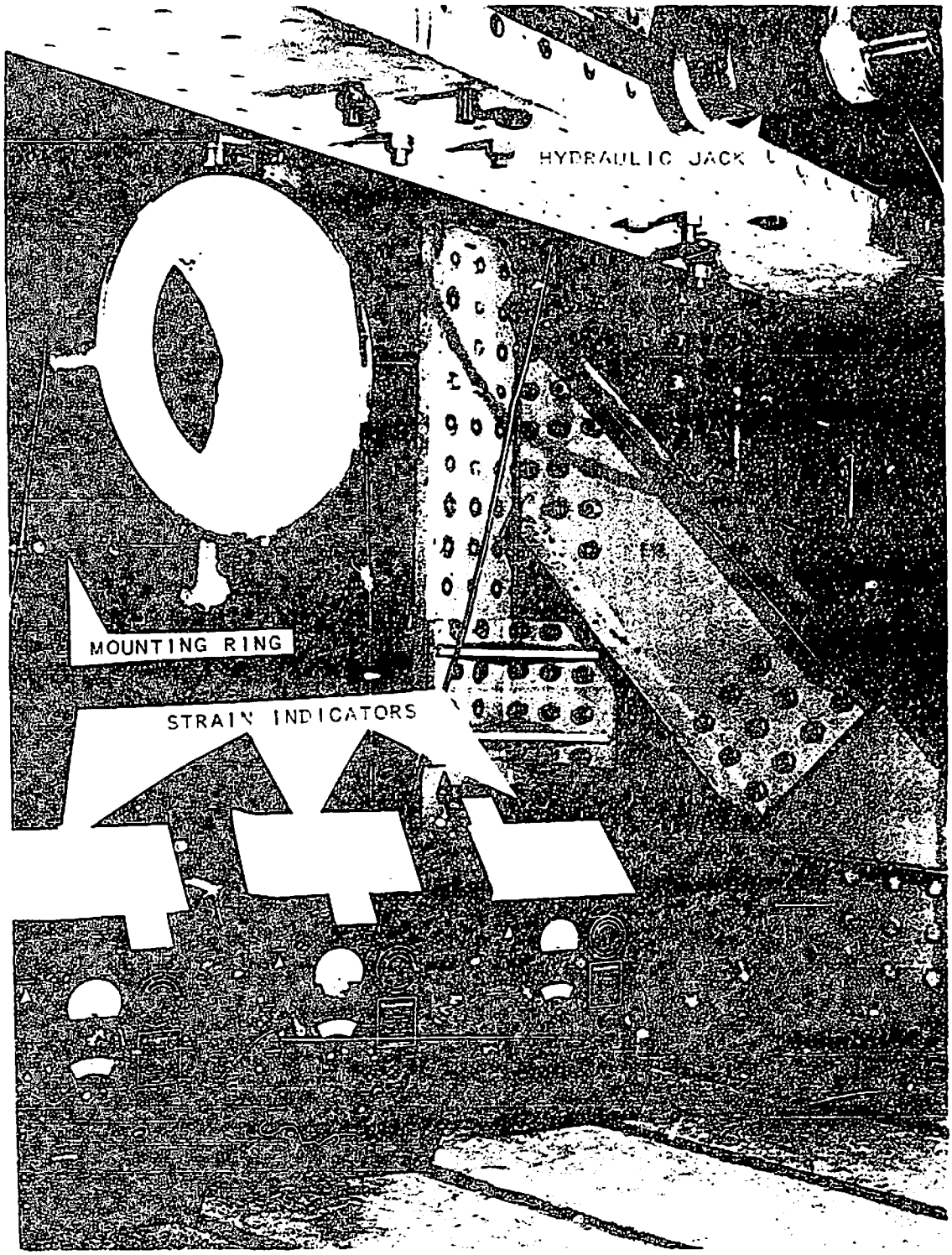

FIG. 3--GENERAL VIEW OF TEST SETUP--STATIC LUG AND SWAY BRACE TOW TEST OF TX-28 MOCKUP UNIT

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REF. SYM: [illegible]

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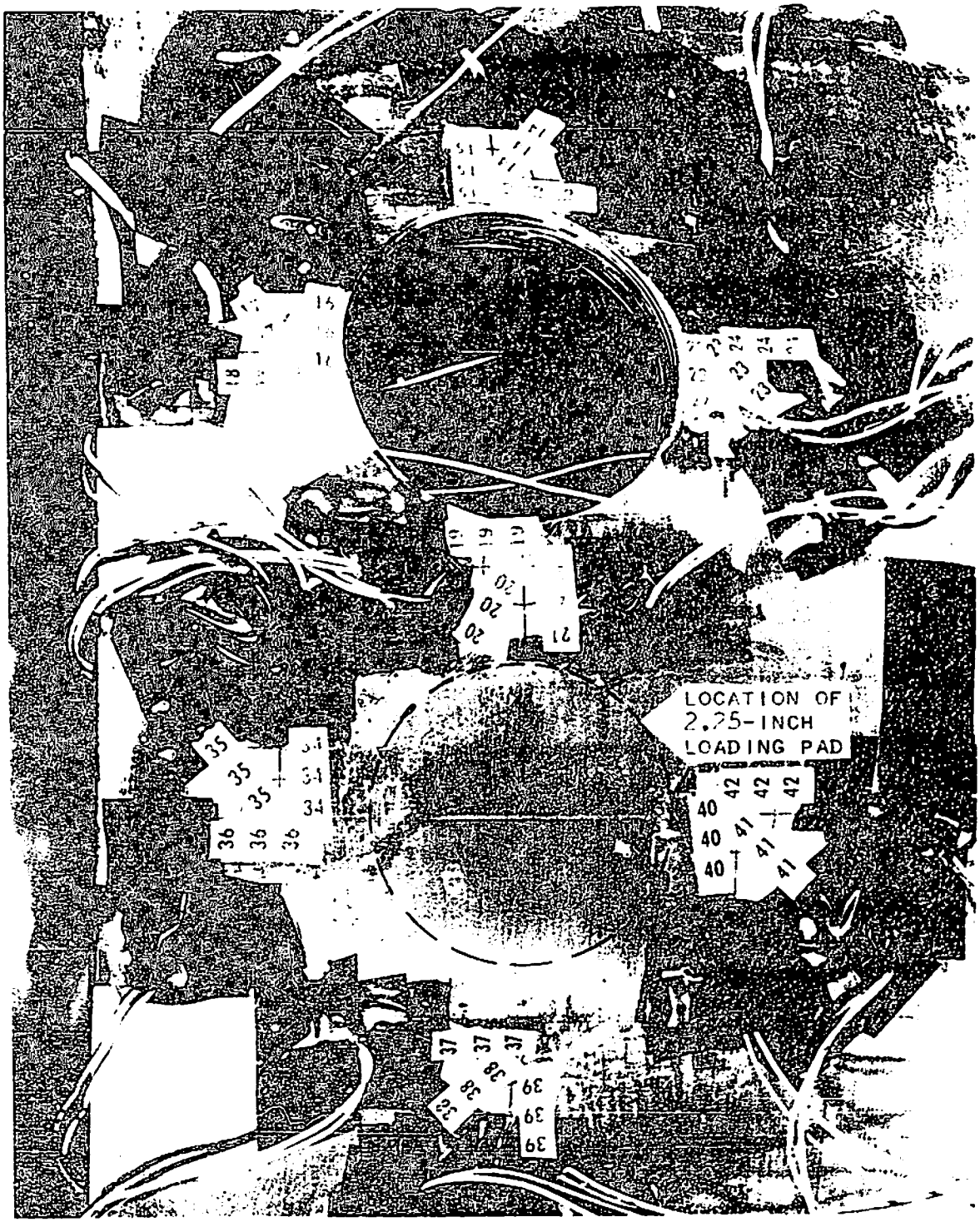

FIG. 4--STRAIN GAGES ON EXTERIOR OF CYLINDER--STATIC LUG AND SHEAR LOAD TEST OF TX-28 MOCKUP UNIT

TM-312
REF. SYM: [illegible]

D-66858

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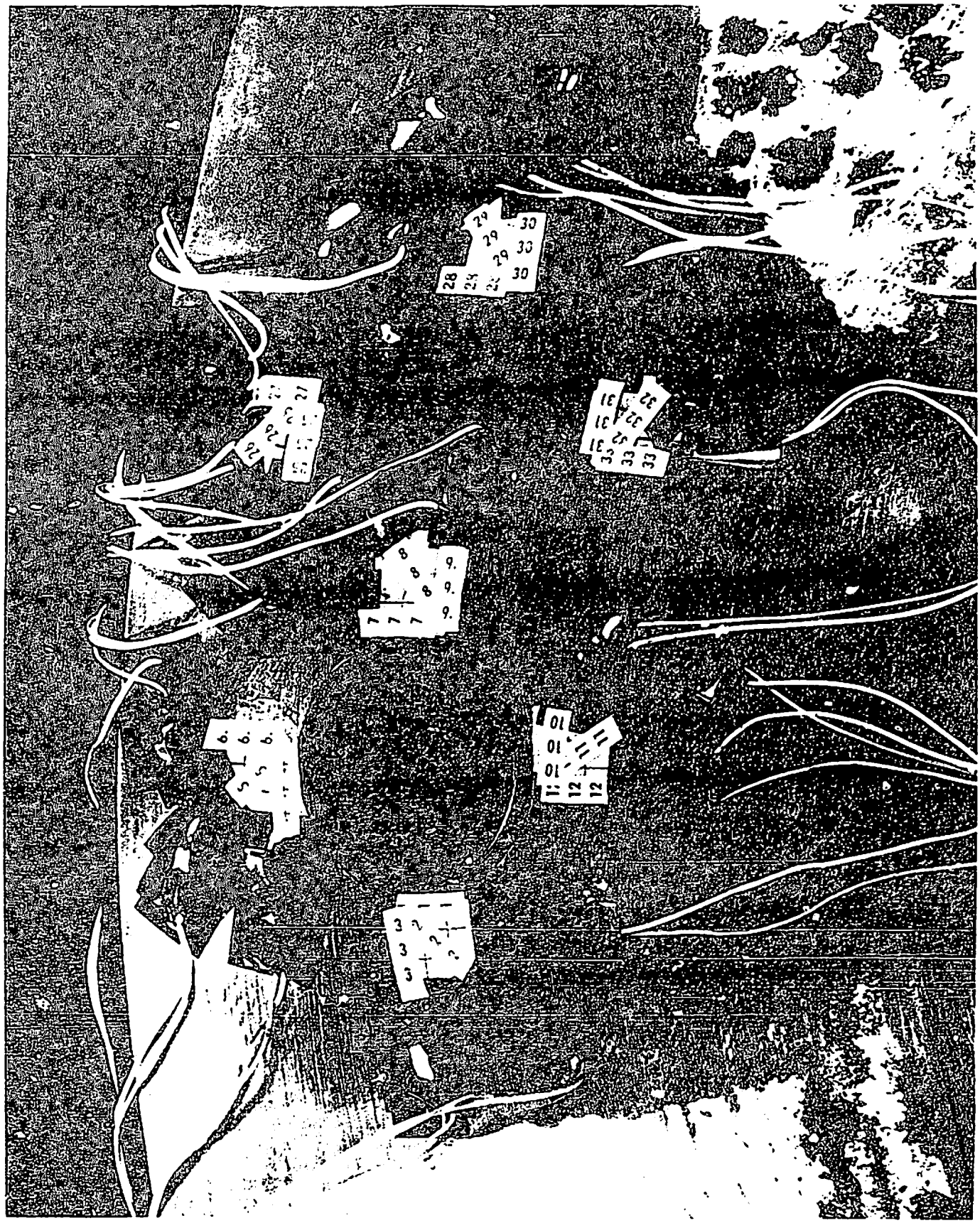

FIG. 5--STRAIN GAGES ON INTERIOR OF CYLINDER--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

TM-312 D#64648
REF. SYM: 1612 (241)

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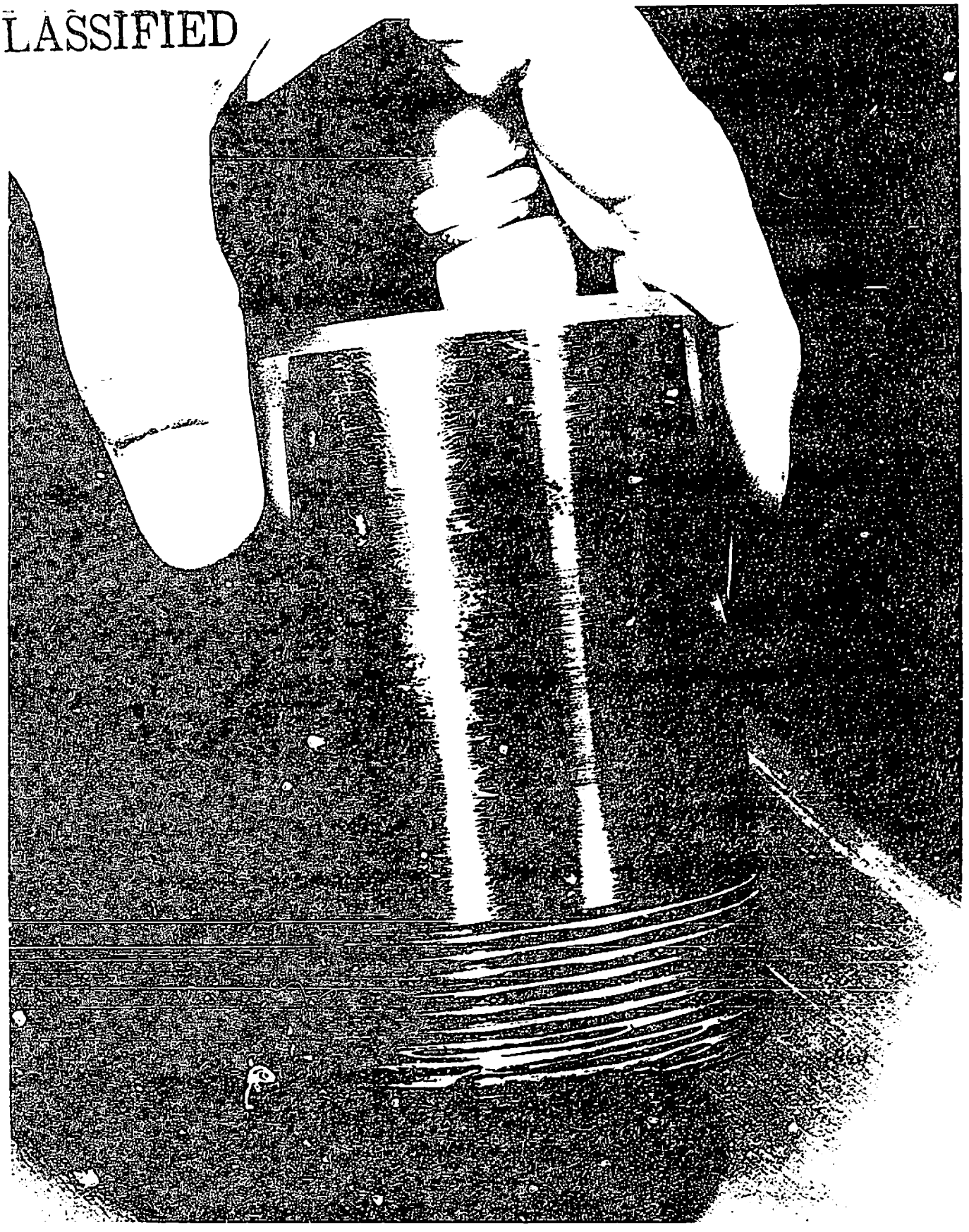

FIG. 6--THREAD FAILURE ON LUG--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

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D#64646 TM-312
REF. SYM: 1612 (241)

[redacted]

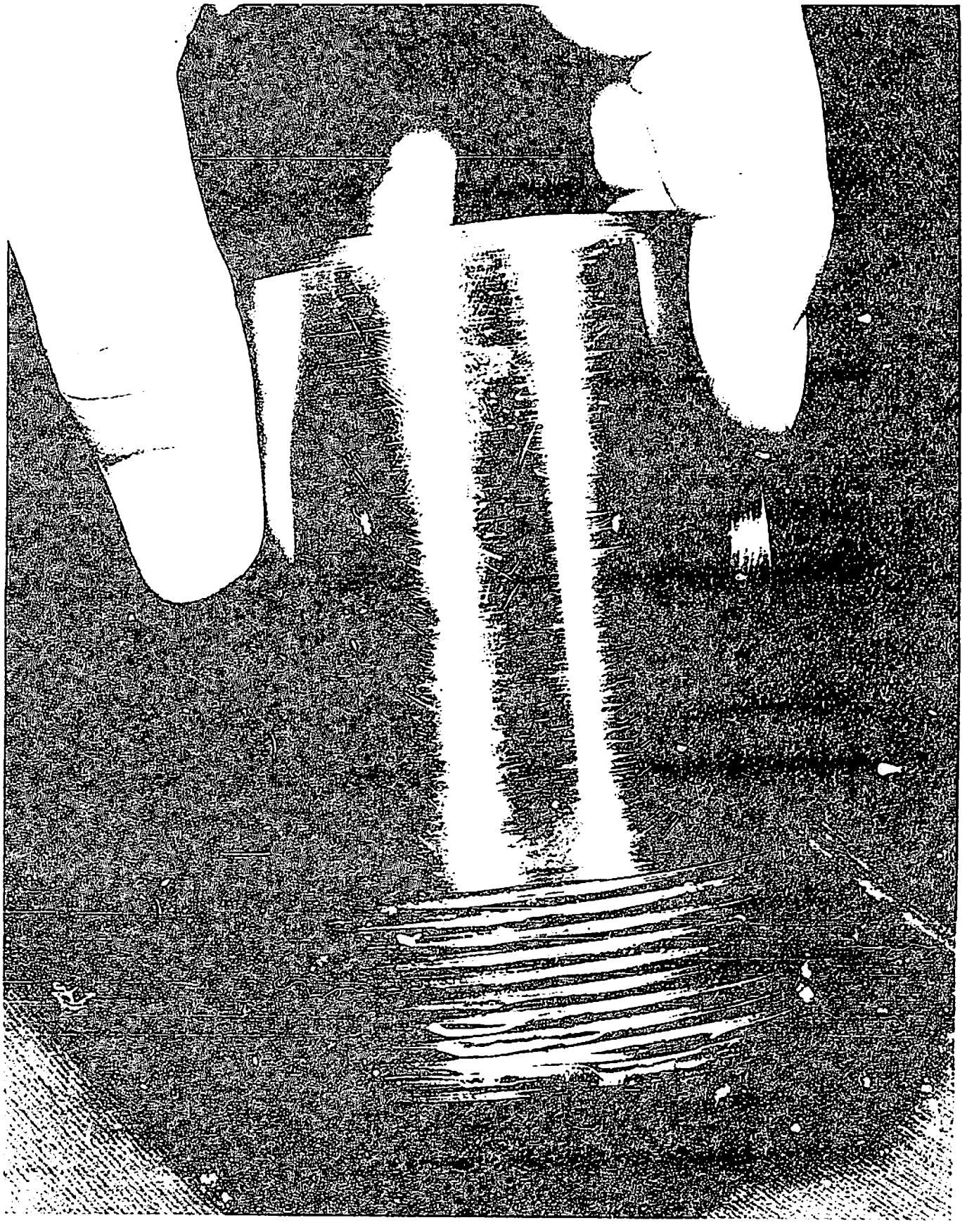

FIG. 7--SECOND VIEW OF THREAD FAILURE ON LUG--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

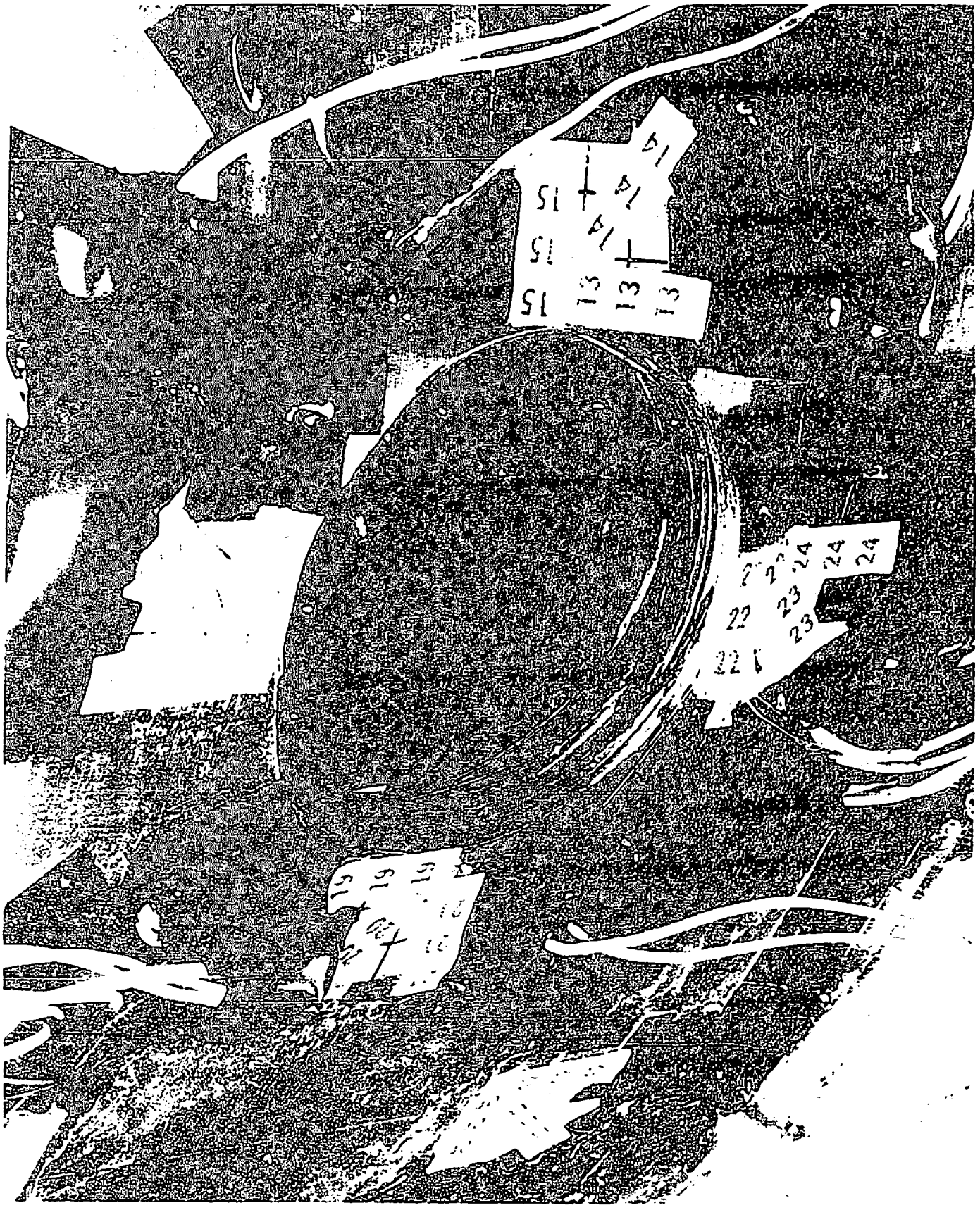

FIG. 8--THREAD FAILURE IN CYLINDER--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

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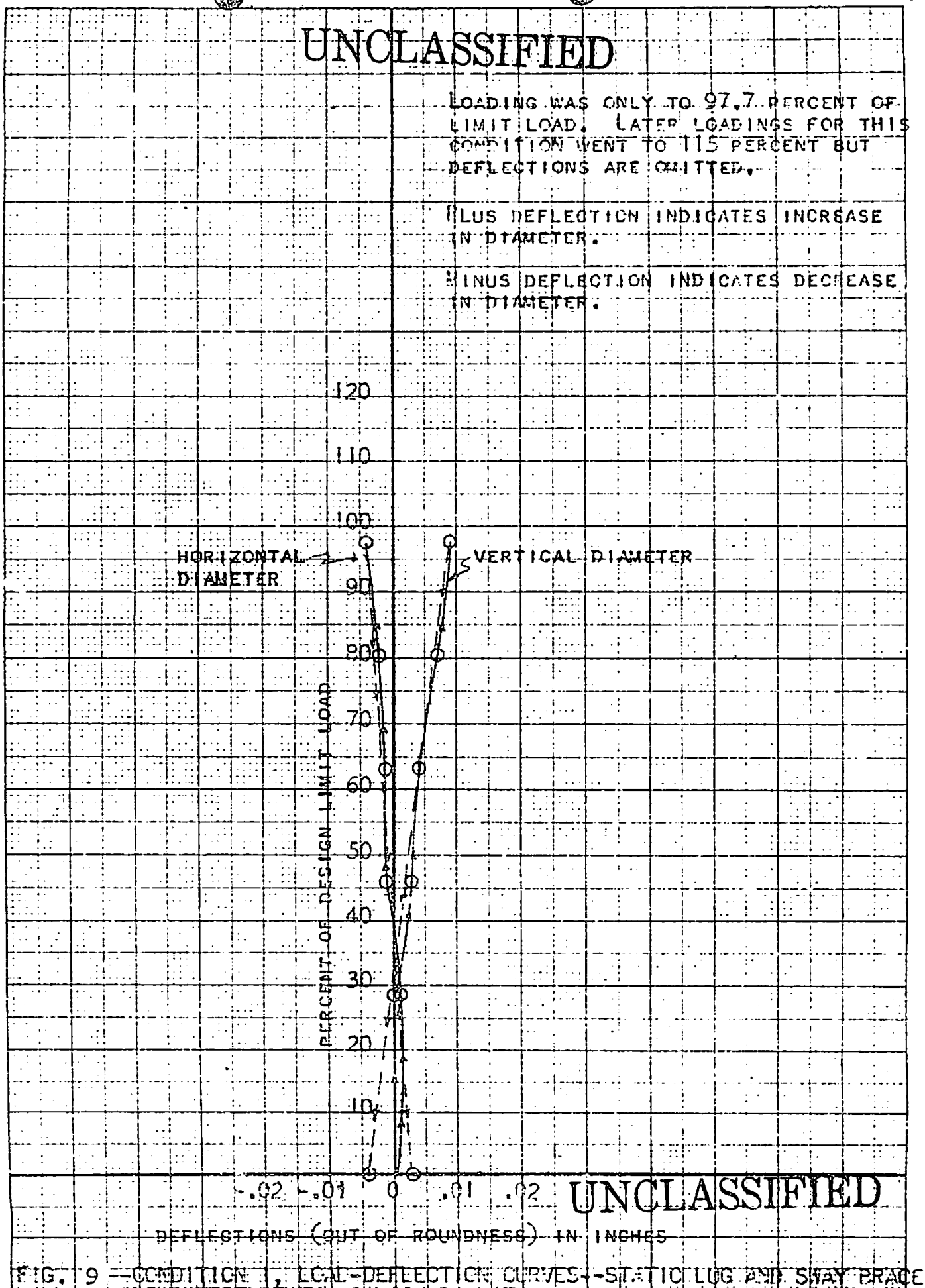

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FIG. 9 --CONDITION 1, LOAD-DEFLECTION CURVES--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 LOCKUP UNIT

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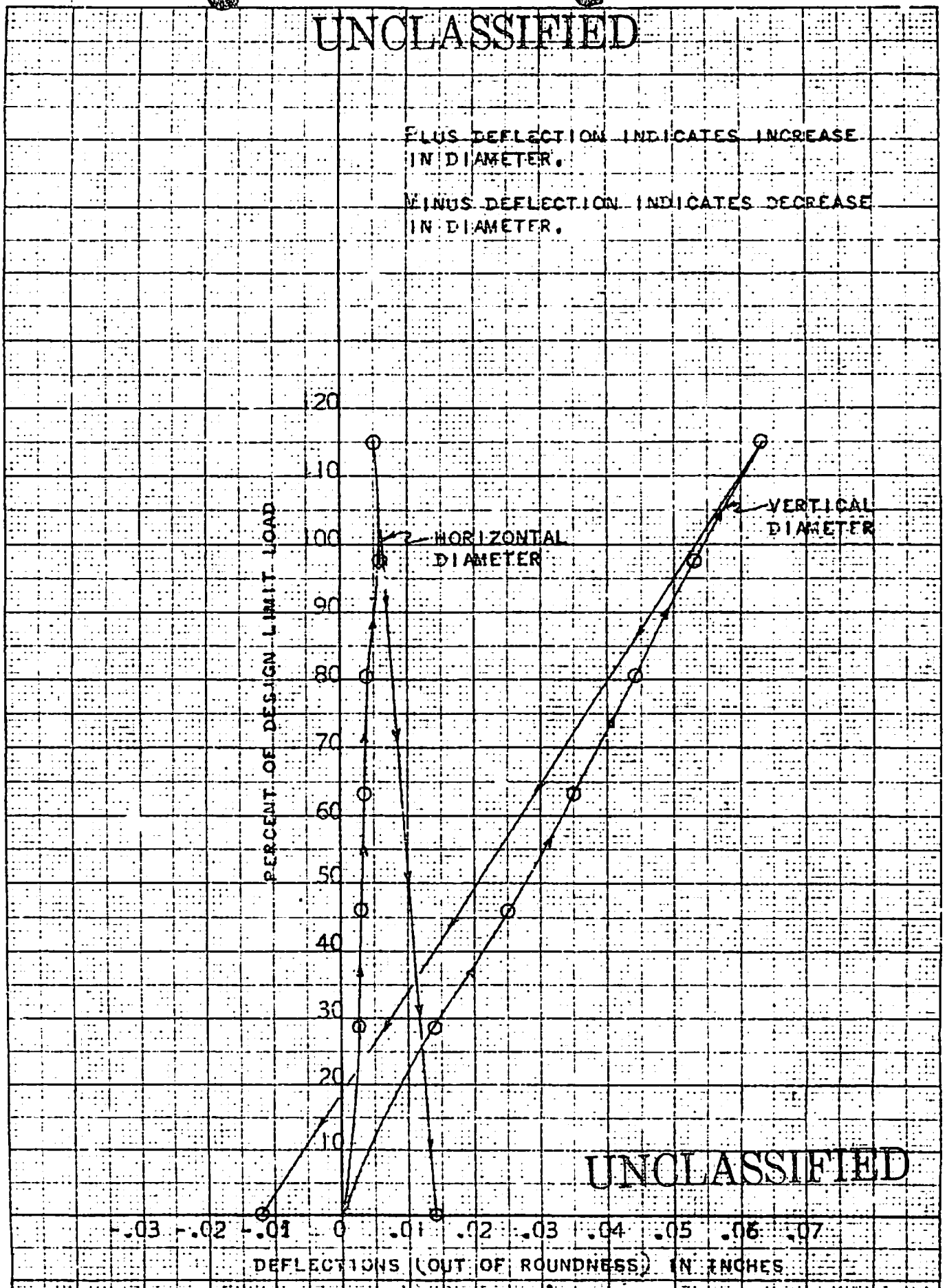

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FIG. 10--CONDITION 2, LOAD-DEFLECTION CURVES--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

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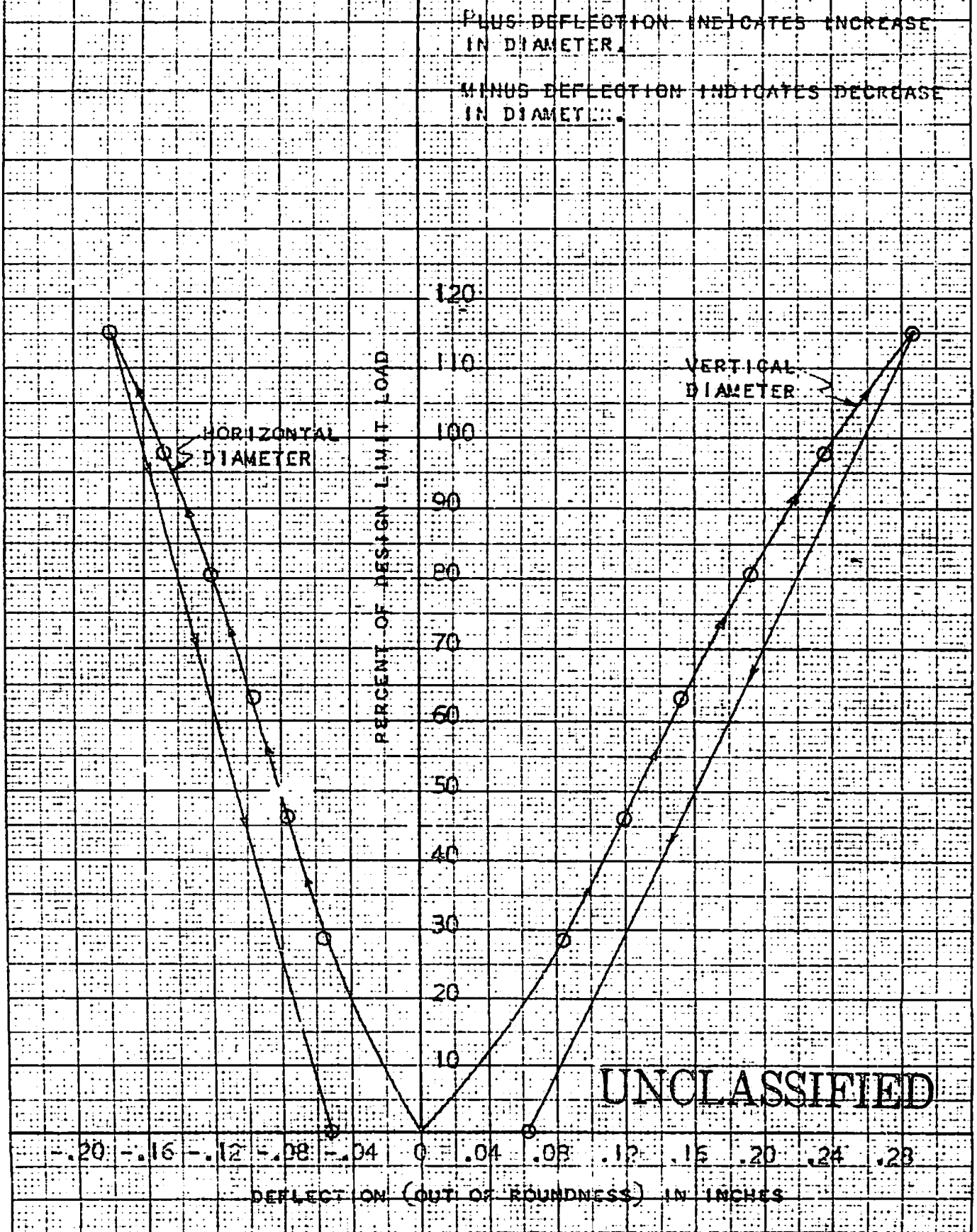

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FIG. 11--CONDITION 3, LOAD-DEFLECTION CURVES--STATIC LUG AND STAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT [redacted]

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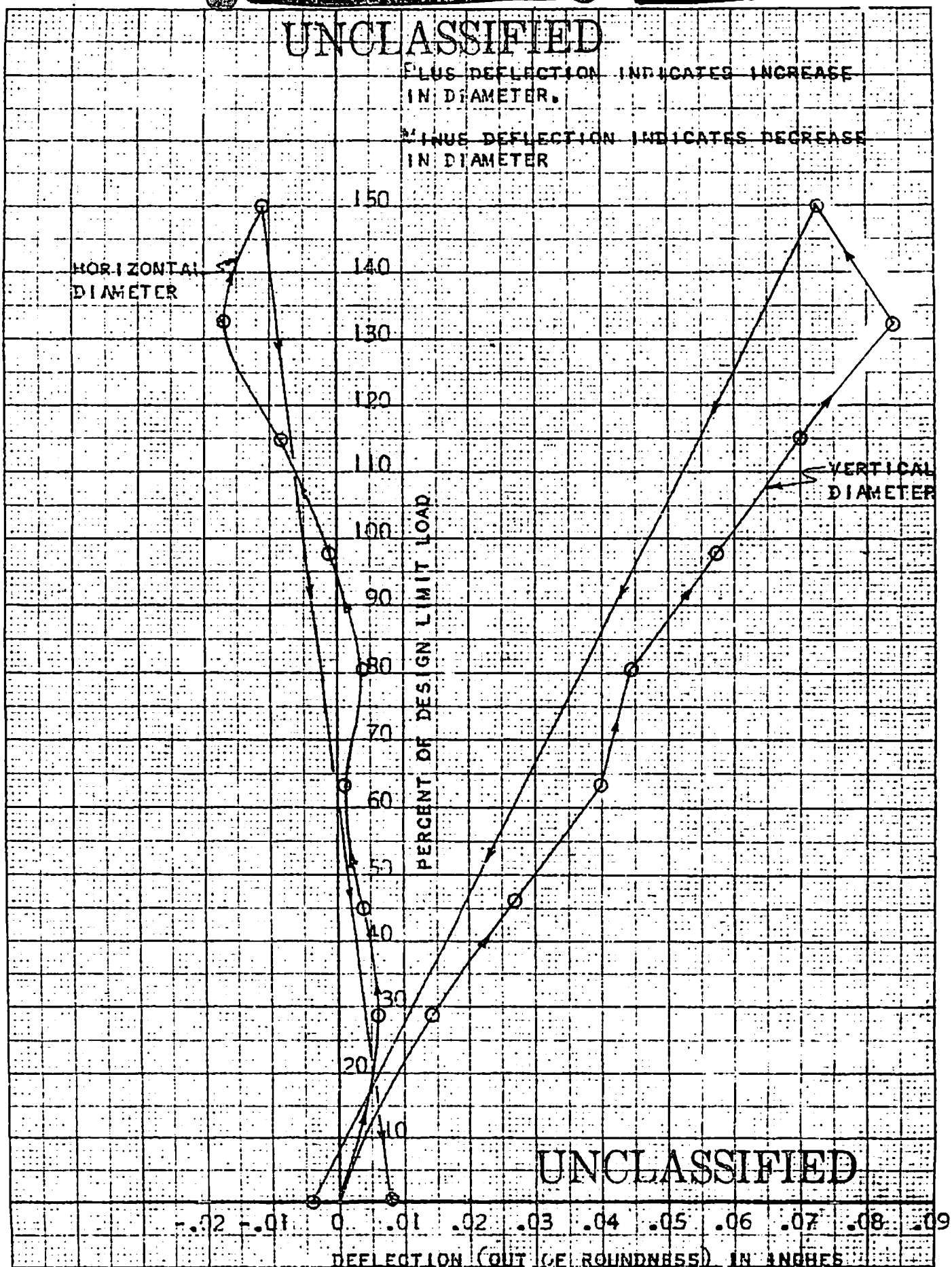

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FIG. 12--CONDITION A AND B--LOAD-DEFLECTION CURVES--STATIC UP AND DOWN

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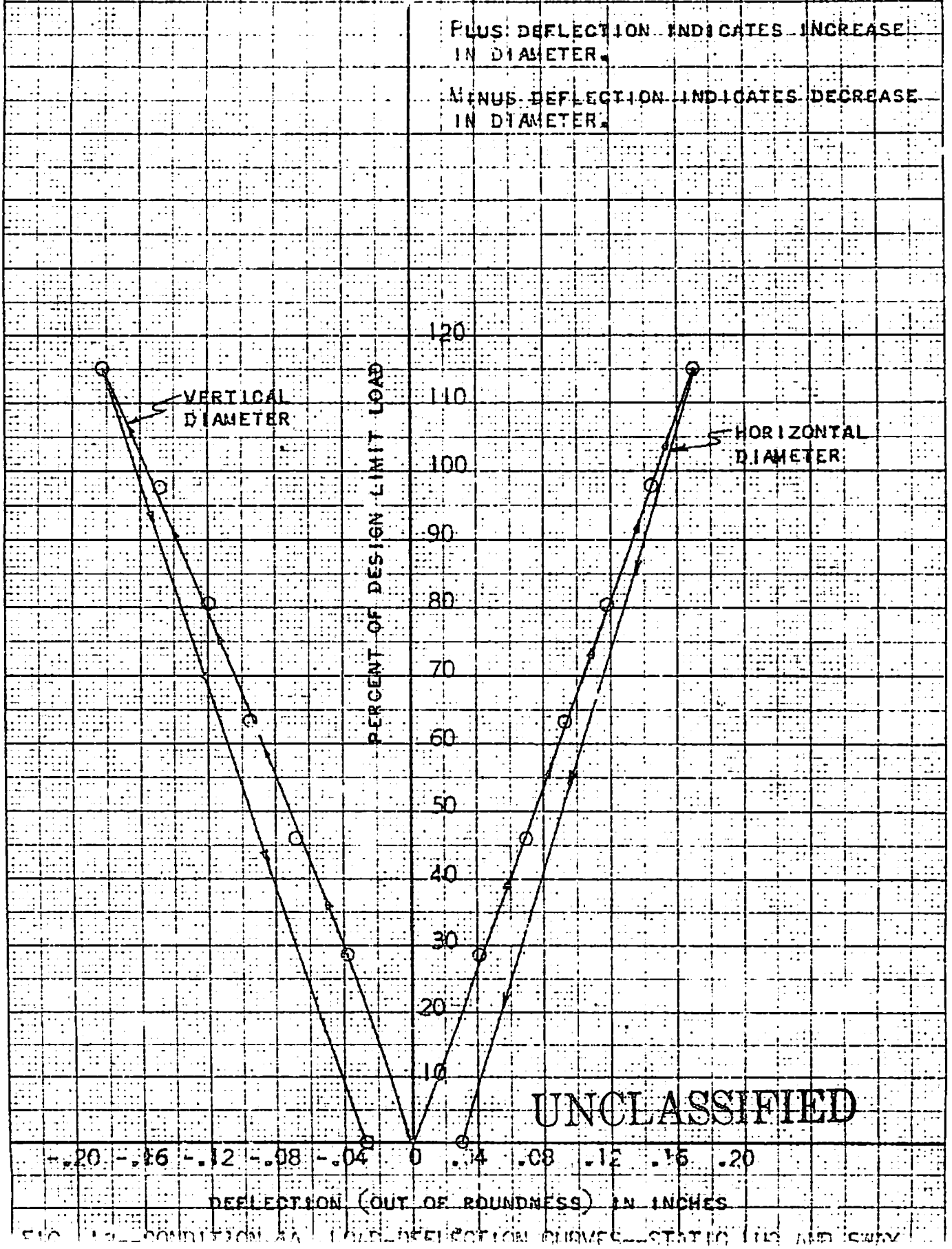

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FIG. 14 CONDITION AA LOAD-DEFLECTION CURVES—STATION 110 AND SWY

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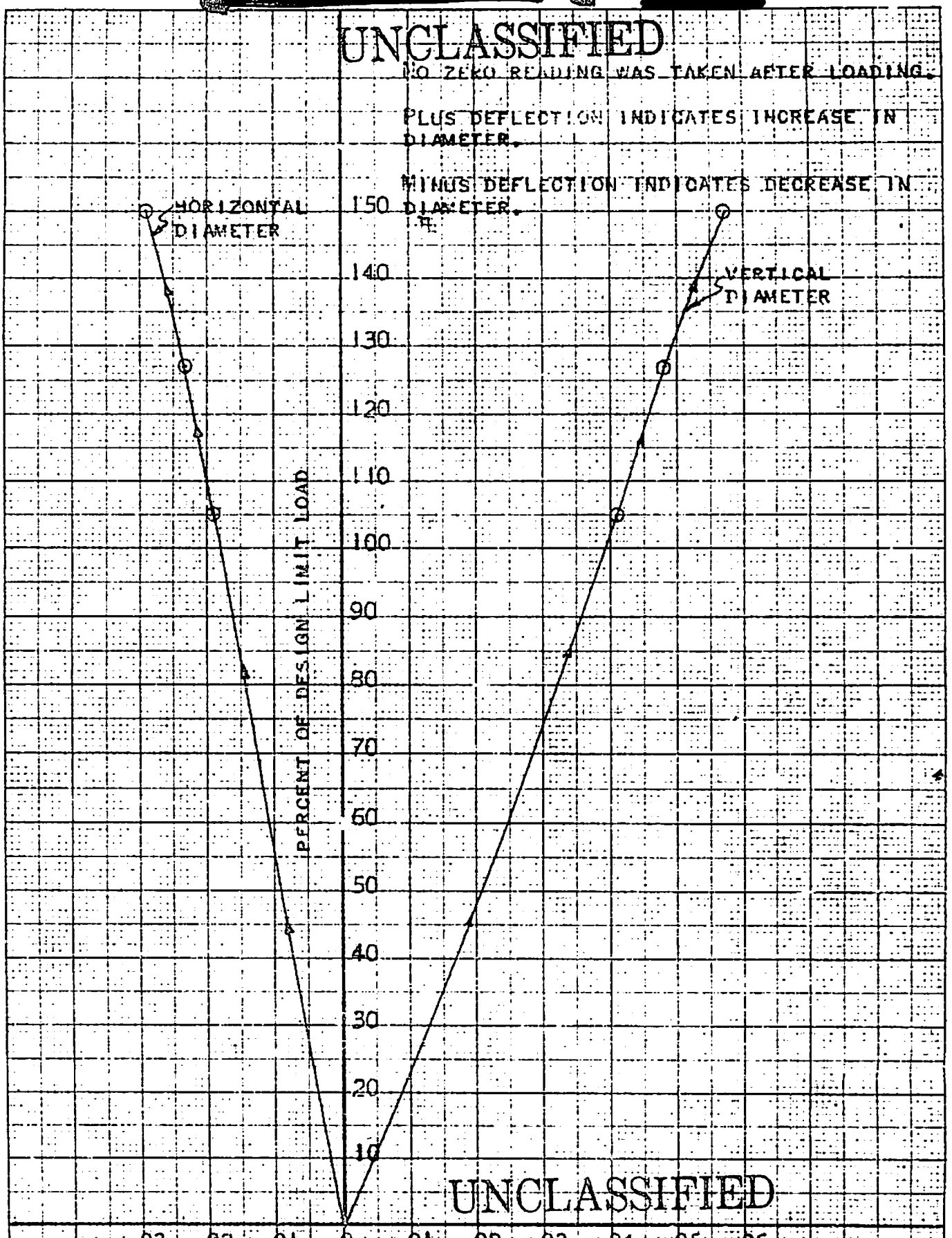

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FIG. 14--CONDITION 5, LOAD-DEFLECTION CURVES--STATIC LIG AND SWAY

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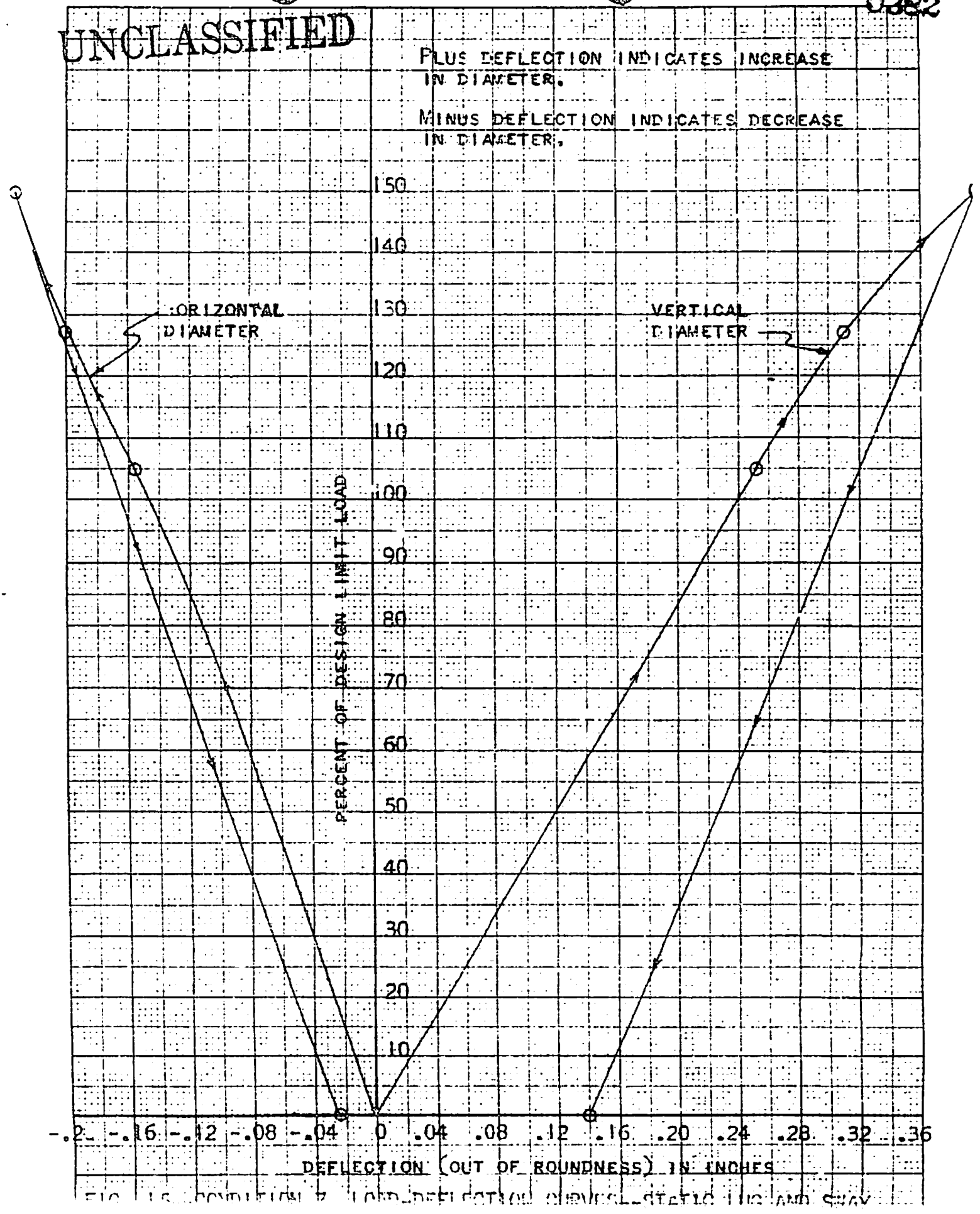

FIG. 15 CONDITION 7 LOAD-DEFLECTION CURVES-STATIC TIE AND SWAY

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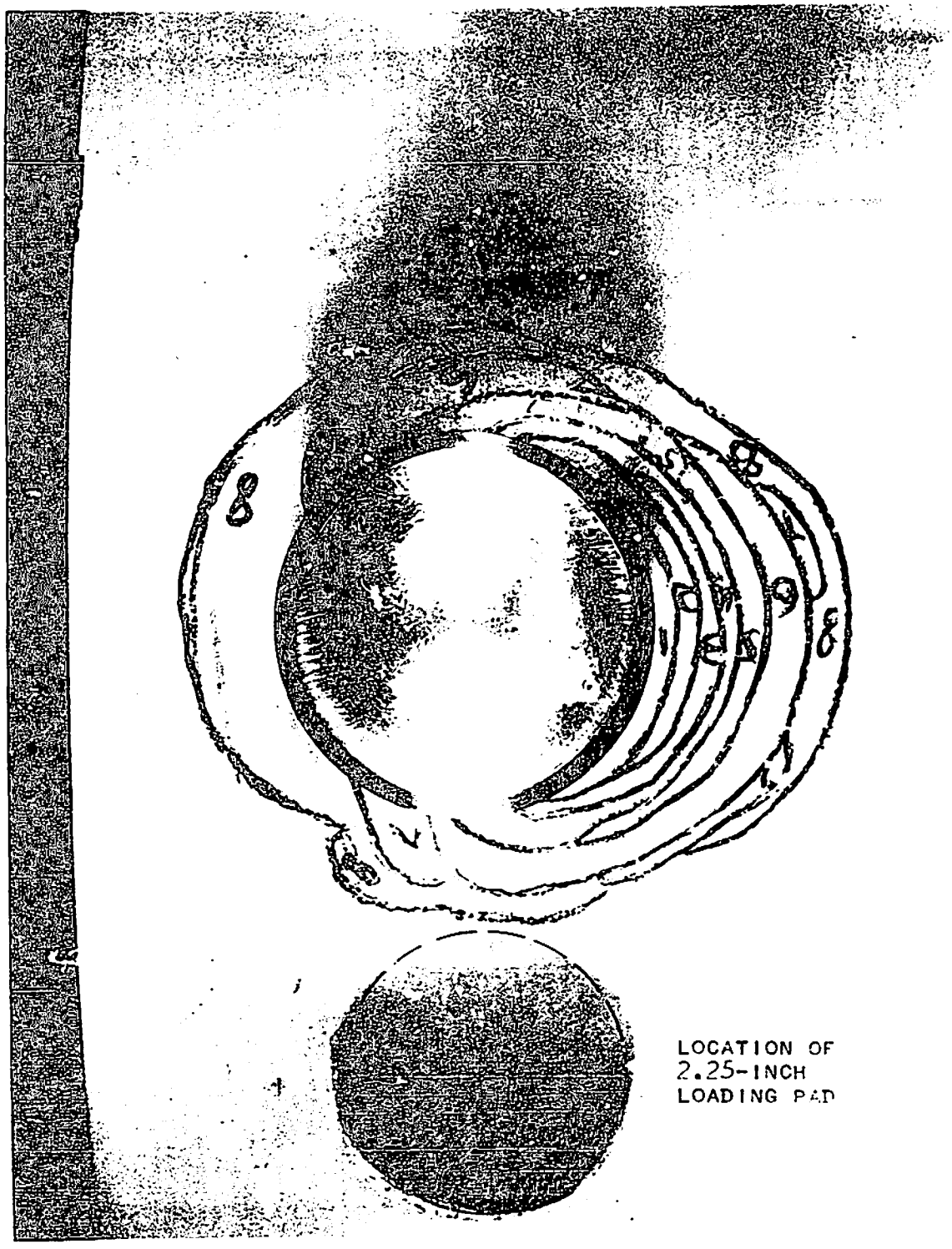

FIG. 16--STRESSCOAT MARKINGS--STATIC LUG AND SWAY BRACE LOAD TEST OF T4-MOCKUP UNIT

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TABLE I

LOADING CONDITIONS -- STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Condition No.	Lug Load-Pounds Longitudinal (Positive Toward Support)	Lug Load-Pounds Vertical (up)	Sway Brace Loads Pounds (Down)	Percent of Design Limit Load	Remarks
1	-18,000	14,000	7,000	115	Lug and Sway Brace at same cross section.
2	5,500	25,000	32,500	115	Lug and Sway Brace at same cross section.
3	-2,500	37,000	23,000	115	Lug and Sway Brace at same cross section.
4	0	26,700	41,000	115	Sway Brace 5 inches forward of lug.
4a	0	0	23,000	115	Lug and Sway Brace at same cross section.
5	-18,000	18,000	9,000	150	Lug and Sway Brace at same cross section.
6	5,500	32,500	42,500	150	Lug and Sway Brace at same cross section.
7	-2,500	48,000	30,000	150	Lug and Sway Brace at same cross section.
8	0	34,900	53,500	150	Sway Brace 5 inches forward of lug.

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TABLE II

SUMMARY OF THE GREATEST MAXIMUM AND MINIMUM PRINCIPAL STRAINS FOR EACH CONDITION--
STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Condition No.	Rosette Giving Greatest Strain	Percent of Limit Load for Greatest Measured Strain	Principal Strains -- Microinches per Inch Maximum	Minimum	Remarks
1	(22,23,24)	115	5,474	-1,030	---
2	(25,26,27)	115	3,414	-526	---
3	(22,23,24)	115	8,895	-1,925	---
4	(22,23,24)	115	4,533	-503	---
4a	(34,35,36)	115	-2,971	323	---
5	(19,20,21)	150	3,907	-1,919	---
6	Test article not loaded to this condition				
7	(22,23,24)	---	in excess of 10,000	---	Gage went out between 127.5 and 150%
8	(22,23,24)	150	6,100	-616	---

Plus indicates tensile strain and minus indicates compressive strain.

Maximum principal strain as listed in this table is the largest numerical value, regardless of sign.

Minimum principal strain as listed in this table is the smallest numerical value, regardless of sign.

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Project No. TM-312

TABLE III

CONDITION 1--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12)--STATIC LOW AND SWAY BRACE LOAD TEST BY TX-28 MOBILE UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	1	-62	-59		
28.8	4500H	2	-682	-673	-687	367
	1750S	3	-261	-262		
	5600V	1	-115	-119		
46	7200H	2	-990	-985	-993	523
	2800S	3	-350	-351		
	7700V	1	-165	-169		
63.2	9900H	2	-1310	-1303	-1313	681
	3850S	3	-460	-462		
	9800V	1	-235	-241		
80.5	12600H	2	-1610	-1602	-1611	807
	4900S	3	-560	-562		
	11900V	1	-315	-322		
97.7	15300H	2	-1920	-1911	-1920	936
	5950S	3	-660	-662		
	14000V	1	-360	-367		
115	18000H	2	-2200	-2189	-2197	1097
	7000S	3	-730	-734		
		1	4	4		
0		2	-7	-7	-14	4
		3	-14	-14		
	3500V	7	-9	-6		
28.8	4500H	8	593	590	609	-353
	1750S	9	262	262		
	5600V	7	0	4		
46	7200H	8	830	826	853	-469
	2800S	9	380	380		
	7700V	7	-50	-45		
63.2	9900H	8	1070	1064	1111	-635
	3850S	9	520	520		
	9800V	7	-70	-64		
80.5	12600H	8	1310	1303	1363	-737
	4900S	9	640	640		
	11900V	7	-110	-102		
97.7	15300H	8	1560	1550	1626	-950
	5950S	9	780	779		
	14000V	7	50	59		
115	18000H	8	1940	1930	1984	-1064
	7000S	9	860	860		
		7	39	39		
0		8	15	15	40	-26
		9	-25	-25		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	4	528	524		
28.8	4500H	5	101	101	528	-432
	1750S	6	-434	-429		
	5600V	4	736	731		
46	7200H	5	160	160	734	-526
	2800S	6	-530	-523		
	7700V	4	896	890		
63.2	9900H	5	220	221	892	-552
	3850S	6	-560	-551		
	9800V	4	1036	1030		
80.5	12600H	5	270	272	1030	-550
	4900S	6	-560	-550		
	11900V	4	1176	1171		
97.7	15300H	5	330	333	1171	-559
	5950S	6	-570	-558		
	14000V	4	1409	1403		
115	18000H	5	370	374	1404	-616
	7000S	6	-630	-616		
		4	92	92		
0		5	30	30	92	-36
		6	-36	-35		
	3500V	10	-262	-259		
28.8	4500H	11	-115	-113	357	-293
	1750S	12	326	323		
	5600V	10	-385	-380		
46	7200H	11	-150	-147	531	-425
	2800S	12	490	486		
	7700V	10	-515	-508		
63.2	9900H	11	-160	-157	687	-551
	3850S	12	650	645		
	9800V	10	-615	-607		
80.5	12600H	11	-160	-156	860	-652
	4900S	12	820	814		
	11900V	10	-715	-705		
97.7	15300H	11	-180	-175	1016	-758
	5950S	12	970	963		
	14000V	10	-790	-778		
115	18000H	11	-190	-184	1220	-846
	7000S	12	1160	1152		
		10	11	11		
0		11	17	17	18	6
		12	12	12		

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TABLE III (Continued)

CONDITION 1--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (13,14,15), (16,17,18), (19,20,21), (22,23,24), [redacted] LUG AND SWAY BRACE LOAD TEST BY TK-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	13	675	676		
28.8	4500H	14	798	798	891	-127
	1750S	15	81	88		
	5600V	13	1064	1065		
46	7200H	14	1210	1210	1367	-161
	2800S	15	130	141		
	7700V	13	1444	1446		
63.2	9900H	14	1610	1610	1828	-188
	3850S	15	180	194		
	9800V	13	1834	1836		
80.5	12600H	14	2020	2020	2303	-229
	4900S	15	220	238		
	11900V	13	2224	2227		
97.7	15300H	14	2420	2421	2774	-266
	5950S	15	260	282		
	14000V	13	2533	2536		
115	18000H	14	2820	2821	3212	-372
	7000S	15	280	305		
		13	-59	-59		
0		14	36	36	-93	45
		15	13	12		
	3500V	19	656	654		
28.8	4500H	20	-447	-439	989	-568
	1750S	21	-241	-234		
	5600V	19	1080	1076		
46	7200H	20	-610	-597	1564	-828
	2800S	21	-350	-339		
	7700V	19	1470	1465		
63.2	9900H	20	-770	-752	2094	-1074
	3850S	21	-460	-445		
	9800V	19	1860	1854		
80.5	12600H	20	-930	-908	2620	-1316
	4900S	21	-570	-551		
	11900V	19	2280	2273		
97.7	15300H	20	-1100	-1073	3186	-1580
	5950S	21	-690	-667		
	14000V	19	2530	2521		
115	18000H	20	-1360	-1329	3586	-1900
	7000S	21	-860	-835		
		19	-60	-60		
0		20	-30	-30	-60	19
		21	18	18		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	16	-464	-464		
28.8	4500H	17	-325	-326	-488	60
	1750S	18	41	36		
	5600V	16	-587	-588		
46	7200H	17	-510	-512	-643	-31
	2800S	18	-80	-86		
	7700V	16	-717	-719		
63.2	9900H	17	-680	-682	-804	-102
	3850S	18	-180	-187		
	9800V	16	-817	-820		
80.5	12600H	17	-820	-823	-926	-212
	4900S	18	-310	-318		
	11900V	16	-997	-1002		
97.7	15300H	17	-990	-994	-1109	-353
	5950S	18	-450	-460		
	14000V	16	-1138	-1143		
115	18000H	17	-1190	-1194	-1311	-343
	7000S	18	-500	-511		
		16	-86	-86		
0		17	-106	-106	-128	90
		18	49	48		
	3500V	22	1520	1518		
28.8	4500H	23	336	346	1573	-265
	1750S	24	-226	-211		
	5600V	22	2270	2264		
46	7200H	23	480	494	2347	-411
	2800S	24	-350	-327		
	7700V	22	3010	3005		
63.2	9900H	23	620	640	3123	-547
	3850S	24	-460	-430		
	9800V	22	3770	3764		
80.5	12600H	23	760	784	3914	-702
	4900S	24	-590	-552		
	11900V	22	4660	4653		
97.7	15300H	23	920	950	4843	-883
	5950S	24	-740	-693		
	14000V	22	5260	5251		
115	18000H	23	1010	1044	5474	-1030
	7000S	24	-860	-807		
		22	-61	-61		
0		23	-29	-29	-61	13
		24	13	13		

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TABLE III (Continued)

CONDITION 1—MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC LUG AND SWAY SPACE LOAD TEST BY TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	25	8	8		
28.8	4500H	26	-111	-110	154	-110
	1750S	27	35	35		
	5600V	25	60	60		
46	7200H	26	-160	-160	260	-160
	2800S	27	40	40		
	7700V	25	120	121		
63.2	9900H	26	-180	-180	364	-182
	3850S	27	60	61		
	9800V	25	170	171		
80.5	12600H	26	-240	-240	477	-245
	4900S	27	60	62		
	11900V	25	180	181		
97.7	15300H	26	-310	-310	577	-313
	5950S	27	80	82		
	14000V	25	250	251		
115	18000H	26	-350	-350	682	-368
	7000S	27	70	73		
		25	-1	-1		
0		26	-2	-2	-3	-1
		27	-2	-2		
	3500V	31	326	326		
28.8	4500H	32	243	244	345	-20
	1750S	33	-12	-7		
	5600V	31	500	500		
46	7200H	32	381	381	533	-37
	2800S	33	-10	-5		
	7700V	31	680	680		
63.2	9900H	32	530	532	735	-79
	3850S	33	-30	-23		
	9800V	31	870	870		
80.5	12600H	32	670	671	934	-86
	4900S	33	-30	-22		
	11900V	31	1040	1040		
97.7	15300H	32	810	812	1120	-100
	5950S	33	-30	-20		
	14000V	31	1280	1280		
115	18000H	32	870	873	1318	-74
	7000S	33	-50	-37		
		31	-6	-6		
0		32	-10	-10	10	-2
		33	-2	-2		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	28	14	16		
28.8	4500H	29	115	116	179	13
	1750S	30	176	176		
	5600V	28	20	23		
46	7200H	29	200	201	290	14
	2800S	30	280	280		
	7700V	28	30	33		
63.2	9900H	29	270	270	324	-12
	3850S	30	280	280		
	9800V	28	50	55		
80.5	12600H	29	350	351	513	43
	4900S	30	500	500		
	11900V	28	50	56		
97.7	15300H	29	420	420	607	37
	5950S	30	590	590		
	14000V	28	230	237		
115	18000H	29	580	583	736	212
	7000S	30	710	712		
		28	-7	-7		
		29	0	0	-16	0
		30	-9	-9		
	3500V	34	-96	-96		
28.8	4500H	35	34	33	-142	48
	1750S	36	3	2		
	5600V	34	-180	-180		
46	7200H	35	30	27	-217	75
	2800S	36	40	38		
	7700V	34	-280	-280		
63.2	9900H	35	10	8	-326	34
	3850S	36	40	38		
	9800V	34	-370	-369		
80.5	12600H	35	0	-3	-418	106
	4900S	36	60	56		
	11900V	34	-420	-419		
97.7	15300H	35	20	17	-486	134
	5950S	36	70	66		
	14000V	34	-520	-519		
115	18000H	35	0	-4	-580	166
	7000S	36	110	105		
		34	3	3		
		35	3	3	-9	5
		36	-7	-7		

[redacted]

TABLE III (Continued)

CONDITION 1--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)--STATIC LUG AND SWAY BRACE LOAD TEST BY TK-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	37				
28.8	4500H	38	-15			
	1750S	39	-39			
	5600V	37			Gage No. 37 was out	
46	7200H	38	-130			
	2800S	39	[illegible]			
	7700V	37				
63.2	9900H	38	-130			
	3850S	39	130			
	9800V	37				
80.5	12600H	38	-240			
	4900S	39	120			
	11900V	37				
97.7	15300H	38	-290			
	5950S	39	60			
	14000V	37				
115	18000H	38	-240			
	7000S	39	-230			
		37				
[illegible]		38				
		39				

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	3500V	40	-209	-209		
28.8	4500H	41	-127	-138	-219	39
	1750S	42	31	29		
	5600V	40	-330	-330		
46	7200H	41	-220	-221	-247	63
	2800S	42	50	47		
	7700V	40	-220	-439		
63.2	9900H	41	-250	-281	-455	91
	3850S	42	80	76		
	9800V	40	-570	-569		
80.5	12600H	41	-380	-391	-600	136
	4900S	42	110	104		
	11900V	40	-710	-709		
97.7	15300H	41	-470	-471	-745	159
	5950S	42	130	123		
	14000V	40	-380	-373		
115	18000H	41	-480	-482	-892	164
	7000S	42	160	151		
		40	2	2		
		41	11	11	-15	11
		42	-5	-5		

NOTE:

Calculation of true strain from Rosette readings:

$$e_1 = e'_1 - k\,e'_3$$

$$e_2 = (1+k)\,e'_2 - k\,(e'_1 + e'_3)$$

$$e_3 = e'_3 - k\,e'_1$$

where e'_1, e'_2, and e'_3 are the strains measured by the three consecutive gages 1, 2, and 3 of the rosette; e_1, e_2, and e_3 are the true, computed strains in the direction of longitudinal axis of strain gages 1, 2, and 3.

k = cross sensitivity factor of the strain gage.

Calculation of the Maximum and Minimum Principal Strains:

$$e_{u,v} = \frac{e_1 + e_3}{2} \pm 0.707\sqrt{(e_1 - e_2)^2 + (e_2 - e_3)^2}$$

e_1, e_2, and e_3 are true strains in direction of longitudinal axis of strain gages 1, 2, and 3.

e_u = maximum principal strain.

e_v = minimum principal strain.

In these tables the maximum principal strain is considered as the largest numerical strain regardless of algebraic sign and the minimum principal strain is considered the smallest numerical strain regardless of sign.

Designation of Loads:

V = Vertical load H = Horizontal load S = Sway Brace load

[redacted]

TABLE IV

CONDITION 2—MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12)—STATIC LUG AND SWAY BRACE LOAD TEST BY TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	1	-789	-790		
28.8	1375H	2	-396	-401	-795	-117
	8120S	3	-114	-122		
	10000V	1	-1220	-1222		
46	2200H	2	-651	-658	-1226	-234
	13000S	3	-226	-238		
	17350V	1	-1620	-1623		
63.2	3125H	2	-860	-872	-1630	-399
	17900S	3	-291	-307		
	17500V	1	-2030	-2034		
80.5	3850H	2	-1080	-1093	-2045	-419
	22700S	3	-410	-430		
	21250V	1	-2440	-2445		
97.7	4675H	2	-1300	-1317	-2459	-521
	27600S	3	-510	-534		
	25000V	1	-2870	-2875		
115	5500H	2	-1490	-1509	-2893	-531
	32500S	3	-520	-549		
		1	-27	-26		
0	0	2	52	51	82	-32
		3	76	76		
	6225V	7	-174	-172		
28.8	1375H	8	-149	-148	-228	236
	8120S	9	181	180		
	10000V	7	-273	-271		
46	2200H	8	-252	-250	-359	311
	13000S	9	227	224		
	13750V	7	-397	-394		
63.2	3125H	8	-382	-379	-523	497
	17900S	9	284	280		
	17500V	7	-460	-477		
80.5	3850H	8	-433	-427	-610	468
	22700S	9	340	335		
	21250V	7	-570	-566		
97.7	4675H	8	-520	-516	-734	582
	27600S	9	420	414		
	25000V	7	-710	-705		
115	5500H	8	-650	-646	-902	640
	32500S	9	450	443		
		7	66	66		
0	0	8	12	13	74	0
		9	8	9		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	4	-605	-604		
28.8	1375H	5	-203	-205	-607	143
	8120S	6	147	141		
	10000V	4	-954	-952		
46	2200H	5	-312	-316	-955	233
	13000S	6	241	231		
	17350V	4	-1300	-1297		
63.2	3125H	5	-412	-418	-1301	339
	17900S	6	348	335		
	17500V	4	-1620	-1616		
80.5	3850H	5	-520	-527	-1624	412
	22700S	6	420	404		
	21250V	4	-1960	-1955		
97.7	4675H	5	-620	-628	-1967	521
	27600S	6	530	510		
	25000V	4	-2310	-2304		
115	5500H	5	-730	-740	-2314	626
	32500S	6	640	617		
		4	114	114		
0	0	5	-32	-31	191	-99
		6	-23	-22		
	6225V	10	-80	-79		
28.8	1375H	11	313	310	-319	+321
	8120S	12	77	76		
	10000V	10	-157	-153		
46	2200H	11	478	473	-505	495
	13000S	12	145	144		
	13750V	10	-211	-209		
63.2	3125H	11	643	637	-672	666
	17900S	12	185	183		
	17500V	10	-270	-268		
80.5	3850H	11	790	782	-861	821
	22700S	12	230	227		
	21250V	10	-330	-327		
97.7	4675H	11	940	931	-1045	975
	27600S	12	260	257		
	25000V	10	-400	-397		
115	5500H	11	1100	1088	-1250	1118
	32500S	12	270	266		
		10	75	75		
0	0	11	43	43	80	-36
		12	-33	-32		

TABLE IV (Continued)

CONDITION 2--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (13,14,15), (16,17,18), (19,20,21), (22,23,24)--STATIC LUG AND SWAY BRACE LOAD TEST BY TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	13	918	918		
28.8	1375H	14	339	337	942	18
	8120S	15	32	41		
	10000V	13	1360	1361		
46	2200H	14	520	523	1398	58
	13000S	15	71	85		
	17350V	13	1780	1781		
63.2	3125H	14	698	719	1813	87
	17900S	15	101	117		
	17500V	13	2280	2281		
80.5	3850H	14	910	925	2323	131
	22700S	15	150	173		
	21250V	13	2720	2722		
97.7	4675H	14	1080	1098	2771	149
	27600S	15	170	197		
	25000V	13	3150	3152		
115	5500H	14	1250	1279	3206	138
	32500S	15	160	192		
		13	-127	-128		
0	0	14	-93	-93	-133	-83
		15	-87	-88		
	6225V	19	374	373		
28.8	1375H	20	214	214	390	-152
	8120S	21	-139	-135		
	10000V	19	591	589		
46	2200H	20	364	364	623	-219
	13000S	21	-192	-186		
	13750V	19	793	790		
63.2	3125H	20	531	531	857	-325
	17900S	21	-266	-258		
	17500V	19	1030	1027		
80.5	3850H	20	640	641	1088	-390
	22700S	21	-340	-330		
	21250V	19	1270	1266		
97.7	4675H	20	770	771	1335	-475
	27600S	21	-420	-427		
	25000V	19	1580	1584		
115	5500H	20	960	960	1678	-670
	32500S	21	-590	-576		
		19	-59	-59		
0	0	20	-14	-15	-62	-2
		21	-3	-4		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	16	558	556		
28.8	1375H	17	225	227	557	-167
	8120S	18	-173	-167		
	10000V	16	881	873		
46	2200H	17	352	354	881	-275
	13000S	18	-280	-272		
	17350V	16	1130	1126		
63.2	3125H	17	477	479	1133	-395
	17900S	18	-399	-388		
	17500V	16	1460	1455		
80.5	3850H	17	600	604	1463	-503
	22700S	18	-510	-495		
	21250V	16	1770	1764		
97.7	4675H	17	740	744	1776	-614
	27600S	18	-620	-602		
	25000V	16	2070	2062		
115	5500H	17	930	934	2092	-778
	32500S	18	-770	-749		
		16	-148	-148		
0	0	17	63	63	-146	2
		18	6	5		
	6225V	22	595	593		
28.8	1375H	23	-99	-94	708	-268
	8120S	24	-160	-154		
	10000V	22	974	971		
46	2200H	23	-155	-146	1150	-434
	13000S	24	-256	-256		
	13750V	22	1340	1336		
63.2	3125H	23	-230	-218	1603	-603
	17900S	24	-350	-337		
	17500V	22	1720	1715		
80.5	3850H	23	-270	-254	2032	-754
	22700S	24	-450	-437		
	21250V	22	2110	2104		
97.7	4675H	23	-330	-310	2499	-923
	27600S	24	-530	-529		
	25000V	22	2530	2523		
115	5500H	23	-390	-367	2994	-1106
	32500S	24	-660	-635		
		22	-149	-149		
0	0	23	-49	-49	-150	28
		24	28	27		

TABLE IV (Continued)

CONDITION 2--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC LUG AND SWAY BRACE LOAD TEST BY TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	25	915	914		
28.8	1375H	26	426	430	915	-111
	8120S	27	-119	-110		
	10000V	25	1440	1438		
46	2200H	26	627	633	1438	-188
	13000S	27	-201	-187		
	17350V	25	1950	1946		
63.2	3125H	26	860	867	1947	-371
	17900S	27	-390	-370		
	17500V	25	2360	2356		
80.5	3850H	26	1050	1060	2356	-346
	22700S	27	-370	-346		
	21250V	25	2880	2875		
97.7	4675H	26	1270	1281	2887	-443
	27600S	27	-460	-431		
	25000V	25	3420	3414		
115	5500H	26	1460	1474	3414	-526
	32500S	27	-550	-526		
		25	97	97		
0	0	26	14	14	101	-27
		27	-24	-23		
	6225V	31	765	765		
28.8	1375H	32	524	527	790	-8
	8120S	33	24	26		
	10000V	31	1120	1120		
46	2200H	32	838	842	1185	-45
	13000S	33	30	19		
	13750V	31	1460	1460		
63.2	3125H	32	1130	1173	1581	-115
	17900S	33	20	5		
	17500V	31	1780	1780		
80.5	3850H	32	1680	1683	1957	-165
	22700S	33	30	12		
	21250V	31	2140	2140		
97.7	4675H	32	1830	1833	2383	-233
	27600S	33	30	9		
	25000V	31	2510	2510		
115	5500H	32	2210	2213	2835	-319
	32500S	33	20	5		
		31	75	75		
0	0	32	71	71	92	-32
		33	-17	-16		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	28	94	98		
28.8	1375H	29	209	212	365	95
	8120S	30	382	383		
	10000V	28	199	205		
46	2200H	29	344	349	658	192
	13000S	30	644	646		
	17350V	28	380	390		
63.2	3125H	29	560	567	985	369
	17900S	30	960	964		
	17500V	28	500	512		
80.5	3850H	29	710	720	1220	488
	22700S	30	1190	1195		
	21250V	28	690	705		
97.7	4675H	29	910	923	1592	660
	27600S	30	1530	1537		
	25000V	28	880	898		
115	5500H	29	1080	1096	1841	937
	32500S	30	1770	1779		
		28	20	20		
0	0	29	2	2	20	-16
		30	-16	-16		
	6225V	34	-849	-848		
28.8	1375H	35	-469	-471	-858	104
	8120S	36	102	94		
	10000V	34	-1320	-1318		
46	2200H	35	-712	-716	-1331	179
	13000S	36	179	166		
	13750V	34	-1800	-1797		
63.2	3125H	35	-960	-966	-1815	249
	17900S	36	250	232		
	17500V	34	-2210	-2207		
80.5	3850H	35	-1170	-1177	-2230	300
	22700S	36	330	308		
	21250V	34	-2660	-2656		
97.7	4675H	35	-1410	-1419	-2683	399
	27600S	36	400	373		
	25000V	34	-3140	-3135		
115	5500H	35	-1630	-1641	-3162	486
	32500S	36	490	459		
		34	-92	-92		
0	0	35	-24	-24	-93	25
		36	26	25		

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TABLE IV (Continued)

CONDITION 2—MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)—STATIC LUG AND SWAY BRACE LOAD TEST BY TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	37	-79	-83		
28.8	1375H	38	-299	-301	-399	-69
	8120S	39	-384	-385		
	100000V	37	-182	-189		
46	2200H	38	-538	-542	-714	-170
	13000S	39	-692	-694		
	137500V	37	-310	-320		
63.2	3125H	38	-820	-826	-1055	-289
	17900S	39	-1020	-1023		
	175000V	37	-420	-433		
80.5	3850H	38	-1050	-1057	-1336	-392
	22700S	39	-1290	-1294		
	212500V	37	-540	-556		
97.7	4675H	38	-1320	-1327	-1653	-499
	27600S	39	-1590	-1595		
	250000V	37	-690	-709		
115	5500H	38	-1590	-1600	-1954	-632
	32500S	39	-1870	-1877		
		37	-33	-33		
0	0	38	-9	-9	-34	4
		39	3	3		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6225V	40	-831	-831		
28.8	1375H	41	-435	-488	-836	-18
	8120S	42	-14	-22		
	100000V	40	-1240	-1240		
46	2200H	41	-809	-813	-1266	-8
	13000S	42	-22	-34		
	137500V	40	-1660	-1660		
63.2	3125H	41	-1130	-1136	-1709	1
	17900S	42	-30	-47		
	175000V	40	-2030	-2030		
80.5	3850H	41	-1410	-1417	-2171	21
	22700S	42	-30	-50		
	212500V	40	-2430	-2430		
97.7	4675H	41	-1710	-1718	-2520	26
	27600S	42	-40	-64		
	250000V	40	-2860	-2860		
115	5500H	41	-2110	-2118	-3006	76
	32500S	42	-40	-69		
		40	-109	-109		
0	0	41	-89	-89	-119	9
		42	0	0		

NOTE:

"See notes on Table III"

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TABLE V

Ref. Sym: 1612 (241)
Project No. TX-312

CONDITION 3--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12)--STATIC TUG AND SWAY BRACE LOAD TEST OF TX-28 MOCK-UP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	9250V	1	-990	-992		
28.8	625H	2	-504	-511	-999	-171
	5750S	3	-167	-177		
	14800V	1	-1570	-1574		
46	1000H	2	-910	-920	-1579	-401
	9200S	3	-390	-406		
	20400V	1	-2010	-2015		
63.2	1375H	2	-1220	-1232	-2026	-590
	12650S	3	-580	-600		
	25900V	1	-2480	-2427		
80.5	1750H	2	-1520	-1537	-2491	-741
	16100S	3	-720	-745		
	31500V	1	-2980	-2986		
97.7	2130H	2	-1790	-1809	-2991	-807
	19550S	3	-780	-810		
	37000V	1	-3570	-3577		
115	2500H	2	-1950	-1973	-3586	-962
	23000S	3	-660	-696		
		1	-428	-426		
0	0	2	-53	-56	-435	177
		3	173	169		
	9250V	7	-1090	-1088		
28.8	625H	8	-331	-336	-1093	159
	5750S	9	166	155		
	14800V	7	-1650	-1648		
46	1000H	8	-620	-628	-1653	217
	9200S	9	230	213		
	20400V	7	-2130	-2127		
63.2	1375H	8	-800	-810	-2132	314
	12650S	9	300	309		
	25400V	7	-2610	-2606		
80.5	1750H	8	-760	-772	-2611	429
	16100S	9	450	424		
	31500V	7	-3070	-3063		
97.7	2130H	8	-1090	-1103	-3064	620
	19550S	9	670	639		
	37000V	7	-3620	-3609		
115	2500H	8	-1160	-1174	-3614	1038
	23000S	9	1070	1034		
		7	-452	-448		
0	0	8	-1	-1	-448	424
		9	428	424		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	9250V	4	-1020	-1018		
28.8	625H	5	-150	-157	-1054	266
	5750S	6	240	230		
	14800V	4	-1420	-1417		
46	1000H	5	-230	-239	-1475	363
	9200S	6	320	306		
	20400V	4	-1720	-1717		
63.2	1375H	5	-310	-321	-1785	381
	12650S	6	330	313		
	25900V	4	-2040	-2037		
80.5	1750H	5	-390	-403	-2122	404
	16100S	6	340	320		
	31500V	4	-2370	-2367		
97.7	2130H	5	-490	-505	-2466	404
	19550S	6	330	306		
	37000V	4	-2750	-2747		
115	2500H	5	-580	-598	-2873	407
	23000S	6	310	282		
		4	-456	-454		
0	0	5	7	4	-298	12
		6	174	169		
	9250V	10	-423	-420		
28.8	625H	11	-209	-208	-449	331
	5750S	12	306	302		
	14800V	10	-590	-585		
46	1000H	11	-200	-199	-605	493
	9200S	12	480	474		
	20400V	10	-730	-724		
63.2	1375H	11	-250	-249	-751	629
	12650S	12	610	603		
	25400V	10	-870	-863		
80.5	1750H	11	-320	-318	-900	768
	16100S	12	740	731		
	31500V	10	-1010	-1001		
97.7	2130H	11	-390	-387	-1059	947
	19550S	12	900	890		
	37000V	10	-1110	-1099		
115	2500H	11	-450	-475	-1197	1207
	23000S	12	1120	1109		
		10	-113	-111		
0	0	11	-140	-138	-200	316
		12	228	227		

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Ref. Sym: 1612 (241)
Project No. TM-312

TABLE V (Continued)

CONDITION 3--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (13,14,15), (16,17,18), (19,20,21), (22,23,24)--STATIC LEG AND SWAY BRACE LOAD TEST OF TX-28 MOCK-UP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	9250V	13	1130	1130		
28.8	625H	14	450	458	1148	44
	5750S	15	50	61		
	14800V	13	1850	1851		
46	1000H	14	770	782	1875	115
	7200S	15	120	139		
	20400V	13	2440	2442		
63.2	1375H	14	1060	1075	2469	168
	12650S	15	170	194		
	25900V	13	3020	3022		
80.5	1750H	14	1330	1343	3052	210
	16100S	15	210	240		
	31500V	13	3630	3632		
97.7	2130H	14	1600	1622	3643	205
	19550S	15	180	216		
	37000V	13	4270	4270		
115	2500H	14	1770	1795	4309	55
	23000S	15	50	93		
		13	212	210		
0	0	14	-15	-16	210	-204
		15	-205	-203		
	9250V	19	1430	1420		
28.8	625H	20	445	454	1454	-144
	5750S	21	-133	-113		
	14800V	19	22[illegible]	2238		
46	1000H	20	750	765	2266	-216
	9200S	21	-210	-188		
	20400V	19	2990	2987		
63.2	1375H	20	970	987	3002	-284
	12650S	21	-270	-240		
	25900V	19	3730	3730		
80.5	1750H	20	1170	1192	3341	-457
	16100S	21	-440	-402		
	31500V	19	4770	4763		
97.7	2130H	20	1340	1367	4836	-704
	19550S	21	-740	-694		
	37000V	19	6130	6117		
115	2500H	20	1430	1513	6429	-1351
	23000S	21	-1300	-1233		
		19	933	927		
0	0	20	-83	-79	901	-659
		21	-634	-625		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	9250V	16	1040	1036		
28.8	625H	17	366	368	1038	-394
	5750S	18	-392	-382		
	14800V	16	1570	1564		
46	1000H	17	570	574	1568	-568
	9200S	18	-580	-564		
	20400V	16	1980	1973		
63.2	1375H	17	740	745	1977	-723
	12650S	18	-740	-720		
	25900V	16	2430	2420		
80.5	1750H	17	950	906	2430	-956
	16100S	18	-970	-946		
	31500V	16	2960	2947		
97.7	2130H	17	1060	1065	2957	-1299
	19550S	18	-1320	-1290		
	37000V	16	3420	3462		
115	2500H	17	1220	1225	3474	-1786
	23000S	18	-1810	-1775		
		16	479	473		
0	0	17	36	35	482	-618
		18	-613	-608		
	9250V	22	1990	1987		
28.8	625H	23	530	542	2022	-354
	5750S	24	-340	-320		
	14800V	22	3070	3065		
46	1000H	23	740	758	3142	-576
	9200S	24	-530	-500		
	20400V	22	4080	4073		
63.2	1375H	23	980	1004	4172	-748
	12650S	24	-690	-649		
	25900V	22	5250	5241		
80.5	1750H	23	1260	1290	5376	-1002
	16100S	24	-920	-867		
	31500V	22	6740	6727		
97.7	2130H	23	1550	1589	6890	-1396
	19550S	24	-1300	-1233		
	37000V	22	8620	8662		
115	2500H	23	1870	1920	8895	-1925
	23000S	24	-1780	-1603		
		22	1750	1745		
0	0	23	260	278	1794	-574
		24	-443	-525		

[redacted]

TABLE 7 (Continued)

CONDITION 3--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, POSITIONS (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC 100 AND DAY SHOCK LOAD TEST OF TX-28 ROCK-UP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	32507	25	407	405		
28.8	625H	26	114	114	412	-72
	57503	27	-71	-66		
	148007	25	820	824		
46	100H	26	400	404	900	-420
	92003	27	-150	-142		
	204007	25	1140	1133		
63.2	1375H	26	370	365	1146	-296
	126503	27	-410	-400		
	250007	25	1440	1437		
80.5	175OH	26	421	420	1451	-259
	161003	27	-260	-247		
	315007	25	1830	1827		
97.7	2130H	26	560	559	1843	-327
	195503	27	-320	-317		
	370007	25	2809	2806		
115	2500H	26	643	652	2813	-411
	230003	27	-410	-388		
		25	-52	-52		
0	0	26	-68	-68	-75	15
		27	-6	-7		
	32507	31	272	273		
28.8	625H	32	543	540	564	-324
	57503	33	-37	-34		
	148007	31	600	600		
46	100H	32	990	986	1056	-590
	92003	33	-50	-44		
	204007	31	870	873		
63.2	1375H	32	1370	1364	1470	-655
	126503	33	-70	- 1		
	250007	31	1150	1149		
80.5	175OH	32	1770	1774	1930	-814
	161003	33	-110	-98		
	315007	31	1440	1437		
97.7	2130H	32	1360	1351	2043	-1066
	195503	33	-170	-156		
	370007	31	1730	1727		
115	2500H	32	2070	2077	2783	-1074
	230003	33	-280	-269		
		31	-57	-58		
0	0	32	122	120	-244	120
		33	-64	-65		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	32507	28	26	30		
28.8	625H	29	108	111	430	2
	57503	30	401	401		
	148007	28	190	192		
46	100OH	29	240	247	911	59
	92003	30	760	761		
	204007	28	170	181		
63.2	1375H	29	370	378	1149	115
	126503	30	1030	1034		
	250007	28	290	294		
80.5	175OH	29	470	481	1456	193
	161003	30	1350	1353		
	315007	28	410	427		
97.7	2130H	29	650	665	1843	309
	195503	30	1720	1724		
	370007	28	580	600		
115	2500H	29	810	828	2138	458
	230003	30	1990	1995		
		28	-12	-13		
0	0	29	-68	-66	-35	-7
		30	-79	-79		
	32507	34	-330	-329		
28.8	625H	35	-161	-162	-329	49
	57503	36	51	49		
	148007	34	-690	-689		
46	100OH	35	-360	-362	-693	122
	92003	36	120	113		
	204007	34	-1090	-1097		
63.2	1375H	35	-500	-504	-1703	160
	126503	36	170	159		
	250007	34	-1260	-1278		
80.5	175OH	35	-630	-635	-1296	224
	161003	36	450	417		
	315007	34	-1550	-1547		
97.7	2130H	35	-740	-746	-1555	281
	195503	36	290	274		
	370007	34	-1940	-1936		
115	2500H	35	-860	-867	-1939	363
	230003	36	380	361		
		34	43	43		
0	0	35	84	84	77	-15
		36	20	20		

[redacted]

TABLE V (Continued)

CONDITION 3--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)--STATIC LEG AND SWAY BRACE LOAD TEST OF TM-28 MOCK-UP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch	Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	9250V	37	-49	-57				9250V	40	-181	-181		
28.8	625H	38	-158	-158	-177	-35	28.8	625H	41	-410	-408	-419	211
	5750S	39	-154	-154				5750S	42	-24	-26		
	14800V	37	-80	-83				14800V	40	-470	-470		
46	1000H	38	-340	-341	-381	-13	46	1000H	41	-800	-797	-833	322
	9200S	39	-310	-311				9200S	42	-40	-45		
	20400V	37	-130	-134				20400V	40	-720	-720		
63.2	1375H	38	-520	-521	-567	-9	63.2	1375H	41	-1110	-1107	-1181	413
	12650S	39	-440	-441				12650S	42	-40	-47		
	25900V	37	-170	-176				25900V	40	-940	-940		
80.5	1750H	38	-680	-680	-739	-9	80.5	1750H	41	-1440	-1436	-1538	558
	16100S	39	-570	-572				16100S	42	-30	-39		
	31500V	37	-220	-227				31500V	40	-1170	-1170		
97.7	2130H	38	-880	-880	-947	7	97.7	2130H	41	-1760	-1754	-1888	686
	19550S	39	-710	-712				19550S	42	-20	-32		
	37000V	37	-260	-268				37000V	40	-1440	-1440		
115	2500H	38	-1110	-1110	-1180	69	115	2500H	41	-2140	-2133	-2310	886
	23000S	39	-840	-843				23000S	42	30	16		
		37	-54	-55					40	83	83		
0	0	38	79	76	-229	77	0	0	41	-122	-120	208	-124
		39	-97	-98					42	-1	0		

NOTE:

"See notes on Table III"

A-CRITICAL AND B-MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12)--STATIC TUG AND SWAY BRACE LOAD TEST OF TM-28 MOCKUP UNIT

Percent Limit Load	Load Dir.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	66807	1	-544	-544		
28.8	OH	2	-21	-26	-524	110
	102503	3	23	28		
	10700V	1	-851	-861		
46	OH	2	-67	-75	-977	141
	164003	3	35	26		
	14700V	1	-1171	-1171		
63.2	OH	2	-97	-107	-1335	177
	226003	3	25	13		
	18700V	1	-1431	-1431		
80.5	OH	2	-127	-141	-1658	168
	287003	3	-45	-59		
	22700V	1	-1661	-1662		
97.7	OH	2	-137	-153	-1935	201
	348003	3	-55	-72		
	26700V	1	-1921	-1922		
115	OH	2	-197	-215	-2232	180
	410003	3	-105	-124		
	30700V	1	-2181	-2182		
132.5	OH	2	-237	-258	-2533	193
	472003	3	-135	-157		
	34900V	1	-2341	-2343		
150	OH	2	-243	-267	-2764	172
	*573003	3	-225	-248		
		1	5	5		
0	0	2	53	53	-52	52
		3	-4	-4		
	66807	4	-432	-431		
28.8	OH	5	-76	-78	-438	122
	102503	6	120	116		
	10700V	4	-619	-617		
46	OH	5	-166	-169	-823	151
	164003	6	150	144		
	14700V	4	-219	-217		
63.2	OH	5	-226	-230	-845	181
	226003	6	130	172		
	18700V	4				
80.5	OH	5	-226			300 Approx.
	287003	6	300		Gage No. 4 was out	
	22700V	4				
97.7	OH	5	-286			
	348003	6	300			300 Approx.
	26700V	4				
115	OH	5	-336			
	410003	6	280			280 Approx.
	30700V	4				
132.5	OH	5	-356			280 Approx.
	472003	6	280			
	34900V	4				
150	OH	5	-336			280 Approx.
	*573003	6	280			
		4				
0	0	5	6			
		6	58			
	66807	7	-758	-755		
28.8	OH	8	-71	-75	-782	296
	102503	9	277	269		
	10700V	7	-1199	-1194		
46	OH	8	-96	-102	-1240	486
	164003	9	452	440		
	14700V	7	-1629	-1623		
63.2	OH	8	-126	-135	-1670	683
	226003	9	644	626		
	18700V	7	-2009	-2001		
80.5	OH	8	-146	-157	-2068	888
	287003	9	842	822		
	22700V	7	-2409	-2392		
97.7	OH	8	-146	-159	-2477	1107
	348003	9	1052	1028		
	26700V	7	-2829	-2816		
115	OH	8	-156	-170	-2910	1318
	410003	9	1252	1224		
	30700V	7	-3329	-3314		
132.5	OH	8	-166	-182	-3428	1564
	472003	9	1482	1449		
	34900V	7	-3929	-3811		
150	OH	8	-166	-185	-3934	1906
	*573003	9	1822	1783		
		7	-125	124		
0	0	8	43	43	157	[redacted]
		9	73	73		
	66807	10	-176	-175		
28.8	OH	11	-422	-419	-445	377
	102503	12	110	108		
	10700V	10	-262	-260		
46	OH	11	-647	-642	-678	574
	164003	12	158	155		
	14700V	10	-342	-340		
63.2	OH	11	-867	-859	-905	781
	226003	12	218	215		
	18700V	10	-372	-370		
80.5	OH	11	-1117	-1107	-1152	1026
	287003	12	248	244		
	22700V	10	-442	-439		
97.7	OH	11	-1377	-1365	-1414	1238
	348003	12	268	264		
	26700V	10	-512	-509		
115	OH	11	-1627	-1614	-1663	1427
	410003	12	278	273		
	30700V	10	-572	-569		
132.5	OH	11	-1917	-1901	-1947	1651
	472003	12	278	272		
	34900V	10	-632			
150	OH	11				
	*573003	12	208			
		10	-14	-14		
0	0	11	-63	-63	97	-69
		12	43	43		

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TABLE VI (Continued)

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0399

CONDITION 4 AND 8--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (13,14,15), (16,17,18), (19,20,21), (22,23,24)--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 PICKUP UNIT

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Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6680V	13	512	512		
28.8	CH	14	22	27	591	-77
	102500S	15	-23	-18		
	10700V	13	848	848		
46	CH	14	71	78	968	-128
	16400S	15	-16	-4		
	14700V	13	1158	1158		
63.2	CH	14	111	122	1314	-160
	22600S	15	-16	-4		
	18700V	13	1398	1398		
80.5	CH	14	141	154	1548	-192
	28700S	15	-2	2		
	22700V	13	1678	1678		
97.7	CH	14	171	186	1906	-218
	34800S	15	-6	11		
	26700V	13	1968	1968		
115	CH	14	241	259	2222	-210
	41000S	15	24	44		
	30700V	13	2228	2228		
132.5	CH	14	291	311	2508	-224
	47200S	15	34	56		
	34900V	13	2423	2429		
150	CH	14	341	363	2735	-207
	*57300S	15	74	98		
		13	-86	-86		
0	0	14	-33	-39	-86	-2
		15	-1	-2		
	6680V	19	818	816		
28.8	CH	20	106	111	851	-247
	102505	21	-220	-212		
	10700V	19	1304	1302		
46	CH	20	166	174	1359	-383
	16400S	21	-339	-325		
	14700V	19	1784	1780		
63.2	CH	20	236	247	1861	-501
	22600S	21	-438	-420		
	18700V	19	2154	2149		
80.5	CH	20	308	321	2237	-613
	28700S	21	-548	-526		
	22700V	19	2644	2637		
97.7	CH	20	356	372	2751	-755
	34900S	21	-668	-642		
	26700V	19	3144	3136		
115	CH	20	416	436	3276	-888
	41000S	21	-778	-747		
	30700V	19	3664	3675		
132.5	CH	20	486	509	3841	-1037
	47200S	21	-908	-873		
	34900V	19	4224	4273		
150	CH	20	486	515	4481	-1273
	*57300S	21	-1108	-1065		
		19	-30	-30		
0	0	20	-37	-37	-37	-25
		21	-32	-32		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6680V	16	709	706		
28.8	CH	17	344	345	719	-447
	102500S	18	-242	-235		
	10700V	16	1082	1078		
46	CH	17	568	573	1106	-378
	16400S	18	-361	-350		
	14700V	16	1412	1407		
63.2	CH	17	778	780	1456	-516
	22600S	18	-481	-447		
	18700V	16	1672	1666		
80.5	CH	17	968	969	1745	-673
	28700S	18	-611	-593		
	22700V	16	2042	2035		
97.7	CH	17	1168	1167	2143	-780
	34800S	18	-741	-701		
	26700V	16	2412	2402		
115	CH	17	1338	1341	2475	-899
	41000S	18	-831	-837		
	30700V	16	2762	2752		
132.5	CH	17	1512	1521	2851	-1051
	47200S	18	-981	-953		
	34900V	16	3132	3121		
150	CH	17	1668	1671	3219	-1199
	*57300S	18	-1131	1100		
		16	-43	-43		
0	0	17	83	83	-167	83
		18	-42	-42		
	6680V	22	1193	1196		
28.8	CH	23	547	551	1197	-145
	102505	24	-156	-144		
	10700V	22	1918	1916		
46	CH	23	865	873	1917	-229
	16400S	24	-243	-229		
	14700V	22	2608	2605		
63.2	CH	23	1155	1166	2601	-309
	22600S	24	-338	-312		
	18700V	22	3198	3194		
80.5	CH	23	1435	1447	3194	-376
	28700S	24	-403	-375		
	22700V	22	3868	3863		
97.7	CH	23	1755	1771	3863	-429
	34800S	24	-468	-429		
	26700V	22	4538	4533		
115	CH	23	2045	2070	4533	-503
	41000S	24	-548	-503		
	30700V	22	5252	5252		
132.5	CH	23	2395	2417	5254	-578
	47200S	24	-628	-575		
	34900V	22	6098	6091		
150	CH	23	2935	2930	6100	-616
	*57300S	24	-668	-607		
		22	27	27		
0	0	23	76	96	97	-23
		24	47	47		

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TABLE VI (Continued)

CONDITION 4 AND 3—MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (25,26,27), (28,29,30), (31,32,33), (34,35,36)—STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 HOOKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	66807	25	468	467		
28.8	CH	26	113	115	472	-132
	102508	27	-131	-126		
	107007	25	722	720		
46	CH	26	168	171	729	-207
	164008	27	-205	-198		
	147007	25	962	959		
63.2	CH	26	248	252	966	-272
	226008	27	-275	-265		
	187007	25	1272	1268		
80.5	CH	26	358	363	1272	-356
	287008	27	-365	-352		
	227007	25	1552	1548		
97.7	CH	26	428	435	1557	-437
	348008	27	-445	-429		
	267007	25	1802	1797		
115	CH	26	498	506	1804	-514
	410008	27	-525	-507		
	307007	25	2062	2056		
132.5	CH	26	558	567	2065	-593
	472008	27	-635	-584		
	349007	25	2552	2545		
150	CH	26	678	689	2560	-734
	*573008	27	-745	-717		
		25	136	136		
0	0	26	31	32	138	-42
		27	-41	-40		
	66807	28	-114	-112		
28.8	CH	29	95	99	599	-133
	102508	30	575	574		
	107007	28	-182	-173		
46	CH	29	172	177	931	-205
	164008	30	901	899		
	147007	28	-252	-240		
63.2	CH	29	222	229	1250	-282
	226008	30	1211	1208		
	187007	28	-322	-307		
80.5	CH	29	222	221	1510	-370
	287008	30	1451	1448		
	227007	28	-402	-384		
97.7	CH	29	282	273	1833	-461
	348008	30	1761	1757		
	267007	28	-482	-462		
115	CH	29	292	311	2123	-543
	410008	30	2041	2036		
	307007	28	-582	-557		
132.5	CH	29	352	366	2426	-650
	472008	30	2341	2335		
	349007	28	-762	-733		
150	CH	29	462	479	3037	-937
	*573008	30	2941	2933		
		28	-71	-69		
0	0	29	35	85	185	-73
		30	183	182		
	66807	31	639	637		
28.8	CH	32	457	457	695	-229
	102508	33	-177	-171		
	107007	31	1099	1098		
46	CH	32	726	726	1099	-365
	164008	33	-282	-272		
	147007	31	1349	1345		
63.2	CH	32	966	966	1469	-493
	226008	33	-382	-369		
	187007	31	1749	1743		
80.5	CH	32	1376	1374	1980	-782
	287008	33	-562	-545		
	227007	31	2139	2132		
97.7	CH	32	1656	1654	2435	-933
	348008	33	-682	-661		
	267007	31	2479	2471		
115	CH	32	1906	1904	2786	-1102
	410008	33	-812	-787		
	307007	31	2859	2849		
132.5	CH	32	2166	2163	3205	-1307
	472008	33	-992	-953		
	349007	31	3619	3605		
150	CH	32	2546	2543	3979	-1691
	*573008	33	-1352	-1316		
		31	227	225		
0	0	32	62	62	[redacted]	
	66807	34	-286	-285		
28.8	CH	35	-92	-93	-285	100
	102508	36	103	100		
	107007	34	-445	-446		
46	CH	35	-150	-151	-446	160
	164008	36	164	160		
	147007	34	-598	-596		
63.2	CH	35	-210	-212	-596	218
	226008	36	224	218		
	187007	34	-788	-785		
80.5	CH	35	-300	-302	-786	278
	287008	36	284	276		
	227007	34	-968	-964		
97.7	CH	35	-360	-363	-967	347
	348008	36	354	344		
	267007	34	-1118	-1114		
115	CH	35	-420	-423	-1116	396
	410008	36	404	393		
	307007	34	-1238	-1283		
132.5	CH	35	-470	-473	-1284	462
	472008	36	474	461		
	349007	34	-1613	-1612		
150	CH	35	-570	-575	-1613	579
	*573008	36	594	578		
		34	-119	-119		

TABLE VI (Continued)

CONDITION 4 AND 8--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6680V	37	--			
28.8	OH	38	-90			
	10250S	39	-168			
	10700V	37	--			
46	OH	38	-154			
	16400S	39	-263		Gage No. 37 was out	
	14700V	37	--			
63.2	OH	38	-184			
	22600S	39	-363			
	18700V	37	--			
80.5	OH	38	-224			
	28700S	39	-443			
	22700V	37	--			
97.7	OH	38	-254			
	34800S	39	-553			
	26700V	37	--			
115	OH	38	-284			
	41000S	39	-633			
	30700V	37	--			
132.5	OH	38	-324			
	47200S	39	-723			
	34900V	37	--			
150	OH	38	-414			
	*57300S	39	-903			

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	6680V	40	-441	-440		
28.8	OH	41	-372	-372	-499	119
	10250S	42	63	59		
	10700V	40	-690	-689		
46	OH	41	-578	-578	-781	195
	16400S	42	110	103		
	14700V	40	-930	-928		
63.2	OH	41	-738	-738	-1059	271
	22600S	42	150	141		
	18700V	40	-1240	-1233		
80.5	OH	41	-1128	-1129	-1464	444
	28700S	42	230	218		
	22700V	40	-1520	-1517		
97.7	OH	41	-1368	-1367	-1788	546
	34800S	42	290	275		
	26700V	40	-1770	-1766		
115	OH	41	-1568	-1567	-2067	633
	41000S	42	350	332		
	30700V	40	-2050	-2046		
132.5	OH	41	-1788	-1786	-2378	732
	47200S	42	420	400		
	34900V	40	-2570	-2564		
150	OH	41	-2078	-2077	-2921	1031
	*57300S	42	600	674		

NOTE:

"See notes on Table III"

* NOTE: This load is 160% design limit load.

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Ref. Sym: 1612 (241)
Project No. TN-312

TABLE VII

CONDITION (A)--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, POSITIONS (1,2,3), (4,5,6), (7,8,9), (10,11,12)--STATIC TEST AND SHAKE BRACE FOR TEST OF TX-[illegible] MOUNT UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	CV	1	6	6		
21.8	CH	2	-172	-171	-150	89
	37500	3	-97	-97		
	CV	1	50	48		
46	CH	2	-[illegible]	-[illegible]	-287	165
	92000	3	-170	-170		
	CV	1	77	67		
63.2	CH	2	-3[illegible]	-[illegible]	-417	227
	126500	3	-250	-[illegible]		
	CV	1	120	116		
80.5	CH	2	-[illegible]	-[illegible]	-574	339
	161000	3	-360	-359		
	CV	1	170	175		
97.7	CH	2	-[illegible]	-[illegible]	-724	440
	195500	3	-450	-[illegible]		
	CV	1	260	254		
115	CH	2	-810	-806	-945	573
	230000	3	-430	-427		
		1	22	22		
0	0	2	50	50	50	-2
		3	46	46		
	CV	7	445	444		
28.8	CH	8	103	107	522	10
	57500	9	60	65		
	CV	7	775	776		
46	CH	8	211	218	847	43
	92000	9	109	114		
	CV	7	1105	1106		
63.2	CH	8	291	300	1203	43
	126500	9	126	137		
	CV	7	1375	1377		
80.5	CH	8	379	382	1505	43
	161000	9	158	170		
	CV	7	1645	1647		
97.7	CH	8	431	445	1791	49
	195500	9	186	192		
	CV	7	1695	1697		
115	CH	8	431	497	2078	64
	230000	9	226	245		
		7	23	23		
0	0	8	39	39	41	19
		9	37	37		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	CV	4	16	16		
21.8	CH	5	12	14	-77	49
	37500	6	-53	-53		
	CV	4	87	88		
46	CH	5	40	40	-149	94
	92000	6	-117	-116		
	CV	4	127	125		
63.2	CH	5	90	89	-175	114
	126500	6	-157	-156		
	CV	4	137	135		
80.5	CH	5	190	190	-210	210
	161000	6	-187	-185		
	CV	4	167	165		
97.7	CH	5	170	169	308	-276
	195500	6	-237	-234		
	CV	4	377	374		
115	CH	5	250	249	-29	-317
	230000	6	-267	-263		
		4	216	215		
0	0	5	33	34	224	-98
		6	-51	-49		
	CV	10	34	34		
28.8	CH	11	309	307	307	-245
	57500	12	28	28		
	CV	10	60	60		
46	CH	11	500	496	496	-396
	92000	12	40	40		
	CV	10	79	79		
63.2	CH	11	690	684	684	-564
	126500	12	50	51		
	CV	10	80	81		
80.5	CH	11	880	872	872	-729
	161000	12	60	61		
	CV	10	120	121		
97.7	CH	11	1100	1091	1093	-901
	195500	12	70	71		
	CV	10	170	171		
115	CH	11	1330	1318	1320	-1068
	230000	12	80	82		
		10	73	72		
0	0	11	53	52	85	-63
		12	-51	-50		

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TABLE VII (Continued)

CONDITION A--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (13,14,15), (16,17,18), (19,20,21), (22,23,24)--STATIC LOG AND SWAY MAGS LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	CV	13	191	191		
28.8	CH	14	141	141	147	-1
	5750S	15	44	45		
	CV	13	136	137		
46	CH	14	225	225	229	-15
	9200S	15	76	77		
	CV	13	176	177		
63.2	CH	14	325	325	328	-32
	12650S	15	116	118		
	CV	13	196	198		
80.5	CH	14	445	445	445	-89
	16100S	15	156	158		
	CV	13	196	198		
97.7	CH	14	575	573	573	-167
	19550S	15	206	208		
	CV	13	216	217		
115	CH	14	705	703	703	-227
	23000S	15	256	258		
		13	-46	-46		
0	0	14	-47	-47	-51	-17
		15	-23	-23		
	CV	19	-350	-351		
28.8	CH	20	-89	-93	-394	-26
	5750S	21	-64	-68		
	CV	19	-603	-604		
46	CH	20	-165	-170	-664	-44
	9200S	21	-98	-104		
	CV	19	-823	-824		
63.2	CH	20	-225	-232	-903	-57
	12650S	21	-128	-136		
	CV	19	-1023	-1025		
80.5	CH	20	-255	-264	-1132	-54
	16100S	21	-158	-168		
	CV	19	-1163	-1165		
97.7	CH	20	-295	-306	-1311	-93
	19550S	21	-228	-240		
	CV	19	-1313	-1317		
115	CH	20	-345	-358	-1522	-166
	23000S	21	-338	-371		
		19	-88	-88		
0	0	20	-49	-50	-89	-23
		21	-23	-24		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	CV	16	-208	-207		
28.8	CH	17	-123	-123	-217	89
	5750S	18	80	78		
	CV	16	-370	-369		
46	CH	17	-212	-212	-356	154
	9200S	18	138	136		
	CV	16	-500	-498		
63.2	CH	17	-302	-302	-525	201
	12650S	18	178	173		
	CV	16	-630	-628		
80.5	CH	17	-412	-412	-675	259
	16100S	18	218	212		
	CV	16	-740	-737		
97.7	CH	17	-542	-542	-822	346
	19550S	18	268	261		
	CV	16	-860	-857		
115	CH	17	-682	-682	-982	414
	23000S	18	298	289		
		16	-91	-90		
0	0	17	-28	-28	-91	51
		18	51	50		
	CV	22	-274	-274		
28.8	CH	23	-286	-286	-332	24
	5750S	24	-31	-34		
	CV	22	-499	-499		
46	CH	23	-462	-462	-570	32
	9200S	24	-34	-39		
	CV	22	-679	-679		
63.2	CH	23	-662	-663	-800	80
	12650S	24	-34	-41		
	CV	22	-849	-849		
80.5	CH	23	-862	-862	-1025	133
	16100S	24	-34	-43		
	CV	22	-1029	-1029		
97.7	CH	23	-1062	-1062	-1256	184
	19550S	24	-34	-44		
	CV	22	-1219	-1219		
115	CH	23	-1282	-1282	-1505	229
	23000S	24	-44	-56		
		22	-244	-244		
0	0	23	-59	-61	-255	23
		24	14	12		

TABLE VII (Continued)

CONDITION 4A--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC TUG AND SWAY FORCE LOAD TEST OF TM-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	OV	25	820	819		
28.8	CH	26	316	320	822	-68
	5750S	27	-73	-65		
	OV	25	1260	1259		
46	CH	26	500	506	1263	-111
	9200S	27	-120	-107		
	OV	25	1660	1659		
63.2	CH	26	660	668	1665	-109
	12650S	27	-120	-103		
	OV	25	2050	2058		
80.5	CH	26	830	840	2062	-204
	16100S	27	-220	-200		
	OV	25	2480	2477		
97.7	CH	26	1010	1022	2481	-249
	19550S	27	-270	-245		
	OV	25	2910	2907		
115	CH	26	1190	1204	2911	-305
	23000S	27	-330	-301		
		25	95	95		
0	0	26	29	29	96	-24
		27	-25	-24		
	OV	31	599	599		
28.8	CH	32	321	324	600	28
	5750S	33	22	28		
	OV	31	920	920		
46	CH	32	480	485	920	48
	9200S	33	40	49		
	OV	31	1220	1220		
63.2	CH	32	650	655	1221	61
	12650S	33	50	62		
	OV	31	1480	1480		
80.5	CH	32	810	817	1481	85
	16100S	33	70	85		
	OV	31	1780	1781		
97.7	CH	32	980	989	1811	57
	19550S	33	70	83		
	OV	31	2080	2081		
115	CH	32	1160	1170	2082	100
	23000S	33	80	101		
		31	107	107		
0	0	32	49	49	108	-4
		33	-5	-4		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	OV	28	207	211		
28.8	CH	29	333	335	376	196
	5750S	30	359	361		
	OV	28	350	356		
46	CH	29	550	554	611	329
	9200S	30	580	584		
	OV	28	510	518		
63.2	CH	29	760	765	844	488
	12650S	30	810	815		
	OV	28	660	670		
80.5	CH	29	950	957	1057	639
	16100S	30	1020	1027		
	OV	28	830	843		
97.7	CH	29	1180	1189	1397	805
	19550S	30	1260	1268		
	OV	28	1010	1025		
115	CH	29	1430	1441	1579	977
	23000S	30	1520	1531		
		28	-30	-29		
0	0	29	30	30	67	-31
		30	64	64		
	OV	34	-840	-839		
28.8	CH	35	-379	-383	-840	68
	5750S	36	74	66		
	OV	34	-1280	-1279		
46	CH	35	-590	-595	-1280	118
	9200S	36	130	117		
	OV	34	-1700	-1693		
63.2	CH	35	-790	-797	-1698	154
	12650S	36	170	153		
	OV	34	-2110	-2108		
80.5	CH	35	-990	-999	-2109	207
	16100S	36	230	209		
	OV	34	-2510	-2507		
97.7	CH	35	-1180	-1190	-2507	265
	19550S	36	290	265		
	OV	34	-2970	-2967		
115	CH	35	-1410	-1422	-2971	323
	23000S	36	350	320		
		34	-92	-92		
0	0	35	-24	-24	-93	21
		36	22	21		

TABLE VII (Continued)

CONDITION 4A--MAXIMUM AND MINIMUM PRINCIPAL STRAIN, ROSETTES (37,38,39), (40,41,42)--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	OV	37	--		Gage No. 37 was out	
28.8	OH	38	-431			
	5750S	39	-212			
	OV	37	--			
46	OH	38	-690			
	9200S	39	-390			
	OV	37	--			
63.2	OH	38	-970			
	12650S	39	-560			
	OV	37	--			
80.5	OH	38	-1240			
	16100S	39	-710			
	OV	37	--			
97.7	OH	38	-1550			
	19550S	39	-910			
	OV	37	--			
115	OH	38	-1240			
	23000S	39	-1080			
		37				
0	0	38				
		39				

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	OV	40	-725	-725		
28.8	OH	41	-331	-335	-725	29
	5750S	42	36	29		
	OV	40	-1130	-1130		
46	OH	41	-510	-516	-1130	50
	9200S	42	60	49		
	OV	40	-1520	-1519		
63.2	OH	41	-680	-687	-1519	75
	12650S	42	90	75		
	OV	40	-1880	-1879		
80.5	OH	41	-360	-369	-1879	91
	16100S	42	110	91		
	OV	40	-2290	-2289		
97.7	OH	41	-1070	-1081	-2289	107
	19550S	42	130	107		
	OV	40	-2660	-2658		
115	OH	41	-1289	-1293	-2659	123
	23000S	42	150	123		
		40	-117	-117		
0	0	41	-48	-49	-117	-3
		42	-3	-4		

NOTE:

"See notes on Table III"

TABLE VIII

CONDITION 5--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12), (13,14,15), (16,17,18)--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	12600V	1	-765	-765		
105	12600H	2	-1851	-1839	-1885	1035
	6300S	3	-26	-34		
	15300V	1	-865	-865		
127.5	15300H	2	-2191	-2178	-2227	1337
	7650S	3	-16	-25		
	18000V	1	-1025	-1025		
150	18000H	2	-2511	-2496	-2556	1496
	9000S	3	-26	-36		
		1	18	18		
0	0	2	-38	-38	56	-38
		3	0	0		
	12600V	7	-73	-67		
105	12600H	8	1372	1323	1433	-897
	6300S	9	603	602		
	15300V	7	-83	-77		
127.5	15300H	8	1672	1662	1723	-1053
	7650S	9	743	742		
	18000V	7	-163	-154		
150	18000H	8	1902	1890	1973	-1257
	9000S	9	873	871		
		7	78	77		
0	0	8	27	27	80	-40
		9	-59	-58		
	12600V	13	2280	2282		
105	12600H	14	2254	2256	2685	-155
	6300S	15	225	248		
	15300V	13	2730	2733		
127.5	15300H	14	2684	2687	3209	-185
	7650S	15	265	272		
	18000V	13	3170	3173		
150	18000H	14	3114	3117	3725	-235
	9000S	15	285	317		
		13	-37	-37		
0	0	14	70	70	151	53
		15	21	20		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	12600V	4	920	913		
105	12600H	5	-31	-31	912	-828
	6300S	6	-896	-887		
	15300V	4	1060	1051		
127.5	15300H	5	29	30	1051	-905
	7650S	6	-916	-905		
	18000V	4	1130	1121		
150	18000H	5	59	60	1122	-906
	9000S	6	-916	-905		
		4	151	150		
0	0	5	23	24	154	-56
		6	-54	-52		
	12600V	10	-762	-752		
105	12600H	11	-94	-90	1053	-781
	6300S	12	1033	1025		
	15300V	10	-862	-850		
127.5	15300H	11	-74	-69	1267	-883
	7650S	12	1243	1234		
	18000V	10	-972	-958		
150	18000H	11	-74	-69	1437	-993
	9000S	12	1413	1403		
		10	-64	-64		
0	0	11	13	13	-72	40
		12	33	32		
	12600V	16	-906	-906		
105	12600H	17	-552	-585	-925	9
	6300S	18	0	-9		
	15300V	16	-1036	-1037		
127.5	15300H	17	-752	-755	-1072	-68
	7650S	18	-94	-104		
	18000V	16	-1096	-1099		
150	18000H	17	-922	-927	-1152	-222
	9000S	18	-274	-285		
		16	-283	-282		
0	0	17	-161	-161	-277	131
		18	119	116		

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TABLE VIII (Continued)

CONDITION 5--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (19,20,21), (22,23,24), (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	12600V	19	1973	1967		
105	12600H	20	-912	-890	2705	-1353
	6300S	21	-634	-614		
	15300V	19	2432	2424		
127.5	15300H	20	-1092	-1064	3313	-1637
	7650S	21	-773	-749		
	18000V	19	2902	2893		
150	18000H	20	-1242	-1210	3907	-1919
	9000S	21	-933	-904		
		19	-96	-96		
0	0	20	-61	-61	-96	28
		21	28	27		
	12600V	25	286	287		
105	12600H	26	-112	-108	477	-129
	6300S	27	57	60		
	15300V	25	326	327		
127.5	15300H	26	-162	-158	586	-178
	7650S	27	77	80		
	18000V	25	376	377		
150	18000H	26	-212	-207	689	-231
	9000S	27	77	81		
		25	-16	-16		
0	0	26	-4	-4	-17	-3
		27	-5	-5		
	12600V	31	1114	1113		
105	12600H	32	776	778	1164	-103
	6300S	33	-57	-56		
	15300V	31	1314	1313		
127.5	15300H	32	946	949	1383	-135
	7650S	33	-77	-64		
	18000V	31	1514	1513		
150	18000H	32	1106	1109	1606	-136
	9000S	33	-177	-92		
		31	-16	-16		
0	0	32	-19	-19	-21	1
		33	-3	-3		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	12600V	22	--		Gage No. 22 was out	
105	12600H	23	887			
	6300S	24	-780			
	15300V	22	--			
127.5	15300H	23	1097			
	7650S	24	-930			
	18000V	22	--			
150	18000H	23	1277			
	9000S	24	-1120			
		22	--			
0	0	23	-32			
		24	4			
	12600V	28	144	151		
105	12600H	29	586	589	751	109
	6300S	30	708	709		
	15300V	28	174	182		
127.5	15300H	29	706	709	896	126
	7650S	30	836	840		
	18000V	28	194	204		
150	18000H	29	826	830	1047	137
	9000S	30	978	980		
		28	-17	-17		
0	0	29	-1	-1	-48	0
		30	-31	-31		
	12600V	34	-461	-460		
105	12600H	35	-110	-112	-473	81
	6300S	36	73	68		
	15300V	34	-551	-550		
127.5	15300H	35	-120	-124	-568	104
	7650S	36	93	87		
	18000V	34	-641	-640		
150	18000H	35	-130	-134	-665	121
	9000S	36	[illegible]	[illegible]		
		34	13	13		
0	0	35	2	2	13	-11
		36	-11	-11		

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TABLE VIII (Continued)

CONDITION 5—MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)—STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch	Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	12600V	37	--		Gage No. 37 was cut			12600V	40	-310	-309		
105	12600H	38	-469				105	12600H	41	-479	-481	-126	116
	6300S	39	-462					6300S	42	107	99		
	15300V	37	--					15300V	40	-950	-941		
127.5	15300H	38	-551				127.5	15300H	41	-559	-561	-170	142
	7650S	39	-304					7650S	42	137	127		
	18000V	37	--					18000V	40	-1110	-1108		
150	18000H	38	-651				150	18000H	41	-659	-662	-1136	174
	9000S	39	-362					9000S	42	157	146		
		37	--						40	-8	-8		
0	0	38	-10				0		41	19	19	-13	19
		39	-38						42	-6	-6		

NOTE:

"See notes on Table III"

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TABLE IX

SECTION 7--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (1,2,3), (4,5,6), (7,8,9), (10,11,12), (13,14,15), (16,17,18)--STATIC LUG AND SWAY BRACE LOAD
TEST OF TX-15 PICKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	336000V	1	-[illegible]	-[illegible]		
105	1750H	2	-[illegible]	-[illegible]	-[illegible]	-791
	210000S	3	-775	-777		
	408000V	1	--			
127.5	2125H	2	-[illegible]		--	-660 approx.
	255000S	3	-[illegible]			
	480000V	1	-4957	-4741		
150	2500H	2	-2283	-2313	-4068	-358
	300000S	3	-335	-375		
	528000V	1	-5753	-5753		
165	2750H	2	-2448	-2492	-5738	-43
	330000S	3	-26	-24		
	576000V	1	-4722	-4723		
180	3000H	2	-2543	-2591	-4833	43
	360000S	3	-46	-43		
	336000V	7	-2968	-2962		
105	1750H	8	-1106	-1119	-2904	534
	210000S	9	562	532		
	408000V	7	-2498	-2489		
127.5	2125H	8	-1166	-1180	-2493	891
	255000S	9	922	907		
	480000V	7	-4238	-4218		
150	2500H	8	-956	-969	-4222	1914
	300000S	9	1952	1910		
	528000V	7	-5141	-5107		
165	2750H	8	-1516	-1521	-5143	5132
	330000S	9	3152	3101		
	576000V	7	-5731	-5732		
180	3000H	8	-1286	-1282	-5703	4926
	360000S	9	4922	4964		
	336000V	13	3959	3901		
105	1750H	14	1484	1709	4791	211
	210000S	15	412	432		
	408000V	13	4899	4893		
127.5	2125H	14	1864	1894	4976	12
	255000S	15	40	89		
	480000V	13	6339	6335		
150	2500H	14	2142	2182	6339	-412
	300000S	15	-375	-315		
	528000V	13	7732	7697		
165	2750H	14	2401	2447	7731	-795
	330000S	15	-737	-800		
	576000V	13	8762	8749		
180	3000H	14	2611	2660	[redacted]	-1335
	360000S	15	-1237	-1300		

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	336000V	4	—		Gage No. 4 not working properly.	
105	1750H	5	-630			
	210000S	6	179			
	408000V	4	—			
127.5	2125H	5	-513			
	255000S	6	179			
	480000V	4	-3552	-3551		
150	2500H	5	-984	-1009	-3605	207
	300000S	6	29	63		
	528000V	4	-4172	-4171		
165	2750H	5	-944	-976	-4434	313
	330000S	6	89	47		
	576000V	4	-4774	-4771		
180	3000H	5	-824	-862	-5182	502
	360000S	6	139	91		
	336000V	10	-1024	-1014		
105	1750H	11	-207	-207	-1030	986
	210000S	12	979	969		
	408000V	10	-1284	-1193		
127.5	2125H	11	-329	-327	-1228	1142
	255000S	12	1119	1107		
	480000V	10	-1404	-1392		
150	2500H	11	-449	-446	-1441	1273
	300000S	12	1239	1225		
	528000V	10	-1693	-1684		
165	2750H	11	-1327	-1322	-1974	1132
	330000S	12	860	843		
	576000V	10	-1853	-1843		
180	3000H	11	-1727	-1713	-2342	1490
	360000S	12	1010	991		
	336000V	16	2934	2922		
105	1750H	17	1174	1180	4941	-1149
	210000S	18	-1159	-1130		
	408000V	16	3734	3717		
127.5	2125H	17	1534	1540	3765	-1731
	255000S	18	-1059	-1652		
	480000V	16	4744	4697		
150	2500H	17	1744	1739	4772	-4736
	300000S	18	-2703	-2662		
	528000V	16	--			
165	2750H	17	2440		Gage No. 16 was out	
	330000S	18	-4212			
	576000V	16	—			
180	3000H	17	2540	[redacted]		
	360000S	18	[illegible]			

TABLE IX (Continued)

CONDITION 7--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, TESTS (19,20,21), (22,23,24), (25,26,27), (28,29,30), (31,32,33), (34,35,36)--STATIC LOG AND SWAY BRACE LOAD TEST OF TN-42 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	336000V	19	1711	1705		
105	1750H	20	1463	1463	4773	-601
	210000S	21	-580	-583		
	408000V	19	6041	6031		
127.5	2125H	20	1663	1657	6134	-1004
	255000S	21	-990	-990		
	480000V	19	3511	3488		
150	2500H	20	1683	1729	3681	-2377
	300000S	21	-2279	-2155		
	528000V	19	—			
165	2750H	20	4677		Gage No. 19 was cut	
	330000S	21	-2712			
	576000V	19	--			
180	3000H	20	2859			
	360000S	21	-5552			
	336000V	25	1920	1916		
105	1750H	26	644	633	1923	-367
	210000S	27	-380	-361		
	408000V	25	2110	2106		
127.5	2125H	26	664	674	2117	-429
	255000S	27	-440	-419		
	480000V	25	2990	2984		
150	2500H	26	844	859	3011	-637
	300000S	27	-640	-613		
	528000V	25	2902	2895		
165	2750H	26	632	642	2953	-737
	330000S	27	-708	-679		
	576000V	25	3132	3173		
180	3000H	26	512	530	3274	-326
	360000S	27	-358	-326		
	336000V	31	1570	1568		
105	1750H	32	2208	2201	2433	-1017
	210000S	33	-167	-151		
	408000V	31	1770	1768		
127.5	2125H	32	2618	2607	2862	-1324
	255000S	33	-248	-230		
	480000V	31	2520	2518		
150	2500H	32	3818	3803	4129	-1805
	300000S	33	-415	-173		
	528000V	31	2509	2504		
165	2750H	32	5654	5618	5849	-3705
	330000S	33	-475	-450		
	576000V	31	2049	2042		
180	3000H	32	7694	7640	7875	-5559
	360000S	33	-655	-626		
	336000V	22	6608	6596		
105	1750H	23	1423	1463	6832	-1342
	210000S	24	-1201	-1135		
	408000V	22	8828	8810		
127.5	2125H	23	1793	1745	9118	-1932
	255000S	24	-1761	-1673		
	480000V	22	--	cut		
150	2500H	23	2471		Gage No. 22 was cut	
	300000S	24	-2721			
	528000V	22	—			
165	2750H	23	4359			
	330000S	24	-3763			
	576000V	22	—			
180	3000H	23	4939			
	360000S	24	-6773			
	336000V	28	472	508		
105	1750H	29	612	627	1784	360
	210000S	30	1632	1637		
	408000V	28	582	601		
127.5	2125H	29	712	750	2115	413
	255000S	30	1922	1928		
	480000V	28	1142	1166		
150	2500H	29	1022	1047	2745	823
	300000S	30	2392	2403		
	528000V	28	1732	1768		
165	2750H	29	4287	4298	4561	863*
	330000S	30	3632	3656		
	576000V	28	1962	1986		
180	3000H	29	3957	3962	3980	474*
	360000S	30	2449	2468		
	336000V	34	-1620	-1617		
105	1750H	35	-821	-826	-1631	327
	210000S	36	328	312		
	408000V	34	-1770	-1766		
127.5	2125H	35	-891	-896	-1783	377
	255000S	36	378	360		
	480000V	34	-2540	-2534		
150	2500H	35	-1971	-1980	-2536	596
	300000S	36	618	593		
	528000V	34	-2524	-2517		
165	2750H	35	-952	-960	-2527	699
	330000S	36	724	690		
	576000V	34	-2604	-2685		
180	3000H	35	-892	-901	-2685	834
	360000S	36	864	834		

* Stay brace pad was cocked due to deflection.

[redacted]

TABLE IX (Continued)

CONDITION 7--MAXIMUM AND MINIMUM PRINCIPAL STRAINS, ROSETTES (37,38,39), (40,41,42)--STATIC LUG AND STAY BRACE LOAD TEST OF TM-28 MOCKUP UNIT

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	336007	37	--		Gage No. 37 was cut	
105	1750H	38	-900		"	
	210005	39	-596		"	
	408007	37	--		"	
127.5	2125H	38	-1010		"	
	255005	39	-476		"	
	480007	37	--		"	
150	2500H	38	-1500		"	
	300005	39	-916		"	
	528007	37	--		Gage No. 37, 38, and 39	
165	2750H	38	--		were cut	
	330005	39	--		"	
	576007	37	--		"	
180	3000H	38	--		"	
	360005	39	--		"	

Percent Limit Load	Load Lbs.	Strain Gage No.	Measured Strain Microinches Per Inch	True Strain Microinches Per Inch	Maximum Principal Strain Microinches Per Inch	Minimum Principal Strain Microinches Per Inch
	336007	40	-1322	-1322		
105	1750H	41	-1788	-1784	-1954	578
	210005	42	-40	-53		
	408007	40	-1432	-1432		
127.5	2125H	41	-2108	-2101	-2269	813
	255005	42	-10	-24		
	480007	40	-2102	-2102		
150	2500H	41	-3058	-3049	-3296	1144
	300005	42	-30	-51		
	528007	40	-1871	-1871		
165	2750H	41	-3978	-3957	-4095	2239
	330005	42	33	14		
	576007	40	-2041	-2041		
180	3000H	41	-5098	-5068	-5197	3145
	360005	42	10	-10		

NOTE:

"See notes in Table III"

TABLE X

DEFLECTIONS (OUT OF ROUNDNESS) OF CYLINDER AT LOADED END--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Direction of Deflection	Deflection In Inches(1) Percent of Limit Load								
	28.8	46.0	63.2	80.5	97.7	115	132.5	150	0
					Condition 1				
Horizontal	.001	-.001	-.001	-.002	-.004	-.001(2)			.003
Vertical	0	.003	.004	.007	.009	.003(2)			-.004
					Condition 2				
Horizontal	.003	.003	.004	.004	.006	.005			.014
Vertical	.014	.025	.035	.044	.053	.063			-.012
					Condition 3				
Horizontal	-.057	-.077	-.096	-.121	-.147	-.179			-.052
Vertical	.083	.119	.152	.193	.235	.286			.062
					Condition 4			Condition 8(3)	
Horizontal	.006	.004	.001	.004	-.001	-.008	-.017	-.012	.008
Vertical	.014	.027	.040	.044	.057	.070	.084	.073	-.004
					Condition 4A				
Horizontal	.041	.070	.094	.118	.143	.170			.029
Vertical	-.038	-.068	-.095	-.119	-.148	-.182			-.027
	28.8	46.0	63.2	80.5	97.7	115	105	127.5	150	0
								Condition 5		
Horizontal							-.019	-.023	-.029	-(4)
Vertical			(5)				.041	.048	.057	-(4)
					Condition 6					
	Loading omitted at suggestion of consultant									
								Condition 7		
Horizontal			(5)				-.155	-.201	-.232	-.023
Vertical							.243	.311	.400	.140

NOTES:

(1) Plus deflection indicates an increase in diameter and a minus deflection indicates a decrease in diameter.
(2) The test article was loaded with other conditions in the time intervening between 97.7 and 115 percent of limit load for Condition 1. Consequently, deflections for 115 percent do not represent a continuation of preceding deflections and have been omitted from the curves.
(3) Condition 8 loads are proportional to Condition 4 loads and Condition 8 is, therefore, an extension of Condition 4.
(4) The deflection readings were inadvertently omitted after structure was unloaded.
(5) Deflection readings were omitted at suggestion of consultant for lower increments since these loadings correspond closely to Conditions 1 and 3.

TABLE XI

STRESSCOAT DATA--STATIC LUG AND SWAY BRACE LOAD TEST OF TX-28 MOCKUP UNIT

Percent of Limit Load	Load in Pounds: Vertical (Up)	Load in Pounds: Horizontal (outward from support)	Load in Pounds: Sway Brace (Down)	Stresscoat Designation on Figure 16	Stresscoat Sensitivity Microinches Per Inch
19.2	2330	3000	1170	1	800
23.0	2800	3600	1400	2	800
27.6	3360	4320	1680	3	800
33.1	4040	5200	2020	4	800
39.8	4860	6240	2430	5	800
47.7	5830	7500	2920	6	800
57.4	7000	9000	3500	7	800
69.0	8400	10800	4200	8	800