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VOLUME VIII

DURABILITY METHODS DEVELOPMENT
Volume VIII - Test and Fractography Data

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This technical report has been reviewed and is approved for publication.

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This report contains the test results and raw fractography data for Phase II of the "Durability Methods Development" program. The fractography data in this report can be used to quantify the initial fatigue quality or equivalent initial flaw size (EIFS) cumulative distribution for clearance-fit fastener holes. These data can be used to implement the probabilistic fracture mechanics approach, described in the Durability Design Handbook. (Continued)

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20. Abstract (Continued)

(AFFDL-TR-83-3027), for durability analysis.

Over 700 specimens were fatigue tested in Phase II. Variables included in the test program were material (7475-T7351 and 2024-T851 aluminum; D6ac steel), spectrum (F-16 400 hour and F-16 500 hour; B-1 bomber), stress level, fastener diameter/fit, % bolt load transfer (0, 15, 30, 40%) and specimen geometry. Most of the fatigue data was obtained for: 7475-T7351 aluminum, F-16 400 hour spectrum and countersunk fastener holes.

Fractography data are presented for over 800 fatigue cracks (primary and secondary) in fastener holes. A tear-down inspection of the F-16 durability test article (wing) is documented, including fractographic results for the lower wing skins.

FOREWORD

This report was prepared by General Dynamics, Fort Worth Division, with the support of George Washington University (Dr. J. N. Yang) and Modern Analysis Inc. (Dr. M. Shinozuka). The Air Force Wright Aeronautical Laboratories (AFWAL/FIBEC) sponsored this research under the "Durability Methods Development" program (Air Force Contract F33615-77-C-3123). James L. Rudd was the Air Force Project Engineer and Dr. Jack W. Lincoln of ASD/ENFS was a technical advisor for the program. Dr. B. G. W. Yee of the General Dynamics' Materials Research Laboratory was the Program Manager and Dr. Sherrell D. Manning was the Principal Investigator. Dr. J. N. Yang of George Washington University (Washington, D.C.) and Dr. M. Shinozuka of Modern Analysis Incorporated (Ridgewood, New Jersey) were associate investigators.

All tests were performed in General Dynamics' Metallurgy Laboratory by R. O. Nay under the direction of F. C. Nordquist. W. T. Kaarlela was responsible for the fractography data acquisition. Fractographic readings were made by D. E. Gordon, W. T. Kaarlela, A. Meder, R. O. Nay and S. M. Speaker. S. M. Speaker coordinated the testing and fractography effort for the program. J. W. Norris developed the computer software for storing and analyzing the fractography data acquired and supported the initial fatigue quality model calibration/evaluation studies. Dr. V. D. Smith supported the statistical analysis effort. Peggy Thomas typed the report and Ron Jordan prepared many of the illustrations.

This report (Vol. VIII) contains test results and raw fractography data developed under Phase II of the "Durability Methods Development" program. Results in this report are evaluated and discussed in report AFFDL-TR-79-3118, Volume VII.

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SECTION I

INTRODUCTION

This report documents the durability test program conducted under Phase II and the tear-down inspection results for the F-16 durability test article (wing box). The test matrix, test setup, test procedures, specimens, data acquisition methods, etc., are described. Raw fractography data and supporting details are presented in this report. However, the conclusions and recommendations for the test program are presented in Volume VII [1].

Fractographic results are presented in this report for over 800 fatigue cracks in fastener holes. This includes fractography data for primary and secondary fatigue cracks. Fractography results are also presented for fatigue cracks in fastener holes from complex lap splice specimens and from the F-16 lower wing skins (durability test article).

A brief overview of the durability methods development program is given in Section II. The durability test program conducted under Phase II is described in Section III. In Section IV, the methods used to acquire the fractography data are described and discussed. The tear-down inspection of the F-16 wing boxes from the durability certification program is documented in Section V, including fractography results.

Fastener installation specifications used are described in Appendix A. Fractography data sheets and crack initiation site data for each specimen are documented in Appendices B (F-16 fighter spectrum) and C (B-1 bomber spectrum). Typical fastener hole dimensions for selected test specimens and selected photographs of fractured surfaces are shown in Appendices D and E, respectively.

S E C T I O N I I

DURABILITY PROGRAM OVERVIEW

The "Durability Methods Development" program had two basic objectives: (1) develop and demonstrate an analytical methodology for quantifying the extent of durability damage (e.g., number of fastener holes with a crack greater than a specified size) for airframes at the design level and (2) develop a durability design handbook with procedures and guidelines for satisfying the U. S. Air Force's durability requirements [2-4]. The methodology from this program [1,5] provides the analytical tools for quantifying the extent of durability damage needed to judge economic life. Given the criterion for economic life, the methodology can be used to analytically show design compliance and to assess structural durability.

The fractography data presented in this volume can be used to quantify the initial fatigue quality, or equivalent-initial-flaw-size (EIFS) cumulative distribution, for clearance-fit fastener holes. Using this information, durability analyses can be performed for selected conditions (i.e., spectrum, stress level, etc.) using the probabilistic fracture mechanics method described in the durability design handbook [5].

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S E C T I C N I I I

DURABILITY TEST PROGRAM

3.1 OBJECTIVES

The basic objective of the test program and the fractographic data acquired was to: (1) provide the data base needed to evaluate, to refine and to demonstrate the durability analysis methodology developed and (2) provide fractographic data for quantifying the initial fatigue quality of fastener holes.

The test matrix was designed to provide basic data an to complement existing data from other programs [e.g., € 11]. Variables included in the test matrix were material spectrum, fastener type, fastener diameter, % bolt loaa transfer, and stress level.

3.2 TEST MATRIX AND DATA SET DESIGNATIONS

The durability program test matrix included 701 coupon specimens. The test matrix is presented in Table 1 and is further detailed in Table 2. The greatest number of tests was performed using 7475-T7351 aluminum sheet, 0.5-inch nominal thickness. Tests were also performed, however, using 2024-T851 aluminum sheet, also 0.5-inch thickness, and D6ac steel in 1.0-inch plate, heat-treated to an ultimate strength of 220-240 ksi. Specifications for these materials are given in Ref. 12. Tests were performed using five basic types of specimens designed for different amounts of load transfer; no load transfer, 15%, 30%, 40%, and a complex splice specimen. Specimen designs are discussed in detail in Section 3.3. Three load spectra were used: the F-16 400-hour wing root bending moment spectrum, the F-16 500 hour durability spectrum and the B-1 bomber spectrum. These spectra are discussed in Section 3.4. Three fastener types were tested in the program: MS-90353 blind countersunk rivet, NAS-1580 countersunk bolt, and NAS-6204 protruding head bolt. Both 1/4- and 3/16-inch diameter fasteners were considered. The drilling technique used throughout the test program was the modified Winslow Spacematic and careful measurements of the hole sizes were maintained for each specimen. The fastener types and drilling procedures used are described in Section 3.5. All testing was performed on

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Table 1 Durability Test Matrix

MATERIAL	SPECTRUM	FASTENER	DIA.	% LOAD TRANSFER AND NUMBER					TOTAL
				0	15%	30%	40%	SPLICE	
7475-T7351	F-16 500 HR	MS 90353	1/4	20	49				69
			3/16		6				6
	F-16 400 HR	MS 90353	3/16	7	31				38
			1/4	50	31	29	31		141
		NAS 1580	1/4	10	10	6	2		28
		NAS 6204	1/4		19				19
	B-1 BOMBER	MS 90353	3/16		10	10		24	44
			1/4	70	43	30	30		173
		NAS 1580	1/4		32	30	30		92
			3/16			10			10
	PHOTOELASTIC	MS 90353	1/4		1				1
2024-T851	F-16 400 HR	NAS 1580	1/4	13	10				23
	B-1 BOMBER	NAS 1580	1/4	20	20				40
D6ac STEEL	F-16 400 HR	NAS 6204	1/4	17					17
TOTAL				207	262	115	93	24	701

Table 2 Test Matrix Details

MATERIAL	SPECTRUM	TRANSFER	σ_G(KSI)	FASTENER TYPE	DIA. (IN.)	SPECIMEN TYPE	#	DATA SET DESIGNATION
7475-T7351	F-16 400 HR BLOCK	0%	32.0	MS-90353	1/4	1A	10	AFLR4
					3/16	1A	7	AFLR3
			34.0	MS-90353	1/4	1A	10	AFMR4(A)
						1B	11	AFMR4(B)
			38.0	NAS-1580	1/4	1A	10	AFMC4
				MS-90353		1A	10	AFHR4(A)
						1B	9	AFHR4(B)
		15%	32.0	MS-90353	1/4	2A	11	AFXLR4
					3/16	2A	12	AFXLR3
			34.0	MS-90353	1/4	2A	10	AFXMR4
					3/16	2A	9	AFXMR3
				NAS-1580	1/4	2A	10	AFXMC4
				NAS-6204	1/4	2A	10	AFXMP4
			38.0	MS-90353	1/4	2A	10	AFXHR4
					3/16	2A	10	AFXHR3
			40.8	NAS-6204	1/4	2A	9	AFXHP4
		30%	30.1	MS-90353	1/4	3	9	AFYLR4
			34.0	MS-90353	1/4	3	10	AFYMR4
				NAS-1580	1/4	3	6	AFYMC4
			38.0	MS-90353	1/4	3	10	AFYHR4
		40%	27.9	MS-90353	1/4	4	6	AFZ1R4
			31.2	MS-90353	1/4	4	6	AFZLR4
			33.0	MS-90353	1/4	4	4	AFZmR4
			34.0	MS-90353	1/4	4	6	AFZmR4
				NAS-1580	1/4	4	2	AFZMC4
			38.0	MS-90353	1/4	4	9	AFZHR4
	B-1 BOMBER	0%	34.0	MS-90353	1/4	1A	6	AB1R4
			36.0	MS-90353	1/4	1A	10	ABLR4(A)
						1B	11	ABLR4(B)
			38.0	MS-90353	1/4	1A	11	ABMR4(A)
						1B	11	ABMR4(B)
			40.8	MS-90353	1/4	1A	10	ABHR4(A)
						1B	11	ABHR4(B)
		15%	36.0	MS-90353	1/4	2A	11	ABXLR4
				NAS-1580	1/4	2A	12	ABXLC4
			38.0	MS-90353	1/4	2A	11	ABXMR4(A)
						2B	10	ABXMR4(B)
					3/16	2A	10	ABXMR3
				NAS-1580	1/4	2A	10	ABXMC4
						SUBTOTAL	360	

Table 2 Test Matrix Details (Continued)

MATERIAL	SPECTRUM	TRANSFER	$\sigma_{G(KSI)}$	FASTENER TYPE	DIA. (IN.)	SPECIMEN TYPE	#	DATA SET DESIGNATION
7475-T7351	B-1 BOMBER	15%	40.8	MS-90353	1/4	2A	11	ABXHR4
				NAS-1580	1/4	2A	10	ABXHC4
		30%	34.0	MS-90353	1/4	3	10	ABYLR4
				NAS-1580	1/4	3	10	ABYLC4
			36.0	MS-90353	1/4	3	10	ABYMR4
					3/16	3	10	ABYMR3
				NAS-1580	1/4	3	10	ABYMC4
					3/16	3	10	ABYMC3
			38.0	MS-90353	1/4	3	10	ABYHR4
				NAS-1580	1/4	3	10	ABYHC4
		40%	34.0	MS-90353	1/4	4	10	ABZLR4
				NAS-1580	1/4	4	10	ABZLC4
			36.0	MS-90353	1/4	4	10	ABZMR4
				NAS-1580	1/4	4	10	ABZMC4
			38.0	MS-90353	1/4	4	10	ABZHR4
				NAS-1580	1/4	4	10	ABZHC4
	F-16 500 HR RANDOM	0%	34.0	MS-90353	1/4	1A	10	ADMR4
			38.0	MS-90353	1/4	1A	10	ADHR4
		15%	29.6	MS-90353	1/4	2A	10	ADX1R4
			32.0	MS-90353	1/4	2A	10	ADXLR4
			34.0	MS-90353	1/4	2A	19	ADXMR4
					3/16	2A	6	ADXMR3
			38.0	MS-90353	1/4	2A	10	ADXHR4
2024-T851	F-16 400 HR BLOCK	0%	31.0	NAS-1580	1/4	1A	5	TFLC4
			34.0	NAS-1580	1/4	1A	8	TFMC4
		15%	31.0	NAS-1580	1/4	2A	10	TFXLC4
	B-1 BOMBER	0%	31.0	NAS-1580	1/4	1A	10	TBLC4
			34.0	NAS-1580	1/4	1A	10	TBMC4
		15%	34.0	NAS-1580	1/4	2A	10	TBXMC4
			40.8	NAS-1580	1/4	2A	10	TBXHC4
D6ac Steel	F-16 400 HR BLOCK	0%	85.0	NAS-6204	1/4	5	1	SF1P4
			100.0	NAS-6204	1/4	5	6	SFLP4
			110.0	NAS-6204	1/4	5	5	SFMP4
			125.0	NAS-6204	1/4	5	5	SFHP4
					SUBTOTAL		676	

COMPLEX SPLICE								
MATERIAL	SPECTRUM	LOAD TRANSFER	$\sigma_{G(KSI)}$	FASTENER TYPE	DIA. (IN.)	SPECIMEN TYPE	#	DATA SET DESIGNATION
7475-T7351	B-1 BOMBER		22	MS-90353	3/16	6	1	CBS1
			25	MS-90353	3/16	6	11	CBSL
			30	MS-90353	3/16	6	12	CBSH
					SUBTOTAL		24	

PHOTOELASTIC STUDY								
MATERIAL	SPECTRUM	LOAD TRANSFER	$\sigma_{G(KSI)}$	FASTENER TYPE	DIA. (IN.)	SPECIMEN TYPE	#	DATA SET DESIGNATION
7475-T7351		15%		MS-90353	1/4	2A	1	
					SUBTOTAL		1	

computer-controlled hydraulic load frames located in the Metallurgy Laboratory at the GD/FWD.

The data set designations shown in Table 2 identify the main test parameters used. The designations consist of six characters, each representing a different test parameter, as shown in Table 3. The first symbol identifies the material used, the second identifies the spectrum, etc. Lower case letters for the stress level indicate a stress level that is lower than an upper case letter, but is in the same general range. Letters in parentheses at the end of a designation indicate one of the specimen configurations shown in Fig. 1. Other peculiarities of the naming system are indicated in Table 3.

3.3 TEST SPECIMEN DESIGN

Five specimen designs were used for testing of the 7475-T7351 aluminum material, including four different amounts of load transfer and a complex splice. The details for the 0%, 15%, 30% and 40% load transfer, and complex splice specimens are shown in Figs. 2 through 6, respectively. As noted in Fig. 2, the gage thickness of the no load transfer specimen was 0.375 inch; however, 64 specimens were tested that were 0.250 inch thick to determine the effect of thickness. These specimens are identified with a (B) after the data set designation, see Table 2. Similarly, most of the 15% load transfer specimens had a width of 1.500 inch as shown in Fig. 3. However, ten specimens with a 2.000 inch width were tested. These specimens are identified by the data set designation ABXMR4(B).

The specimen designs shown in Fig. 2 and 3 were also used for testing 2024-T851 aluminum material under conditions of 0% and 15% load transfer, respectively.

The complex splice specimen shown in Fig. 6 was used to test 7475-T7351 aluminum material under the B-1 bomber spectrum. These specimens were designed to model a fuselage splice and were used to verify the durability analysis methodology for a bomber spectrum [5,13]. Strain survey results are reported in Ref. 14 for a complex splice specimen (2124-T851) with the same geometry and fastener details as the specimen shown in Fig. 6. The effect of lateral support on the resulting strains was found to be negligible [14]. Therefore, the complex splice specimens tested under this program were not laterally supported at the center of the specimen. D6ac steel was also tested

Table 3 Data Set Designations

ORDER OF SYMBOL	TEST PARAMETER	POSSIBLE SYMBOLS
1	MATERIAL	A: 7475-T7351 Al. T: 2024-T851 Al. S: D6ac STEEL
2	SPECTRUM	F: F-16 400 HR BLOCK B: B-1 BOMBER D: F-16 500 HR RANDOM
3	LOAD TRANSFER	: NO LOAD TRANSFER X: 15% LOAD TRANSFER Y: 30% LOAD TRANSFER Z: 40% LOAD TRANSFER
4	STRESS LEVEL	L: LOW M: MEDIUM H: HIGH
5	FASTENER TYPE	R: MS-90353 RIVET C: NAS 1580 C'SUNK BOLT P: NAS 6204 P.H. BOLT
6	FASTENER DIAMETER	3: 3/16 4: 4/16" or 1/4" 6: 6/16" or 3/8"

NOTES:

1. Lower case letters for stress level symbols represent a stress level that is lower, but in the same range as the upper case symbol.

2. FCLA: Final Crack Length Approach
   CBSL: Complex Splice/Low Stress Level
   CBSH: Complex Splice/High Stress Level

EXAMPLE: ABXHR3

Material:	A:	7475-T7351 Al.
Spectrum:	B:	B-1 BOMBER
Load Transfer:	X:	15%
Stress Level:	H:	HIGH (40.8 KSI)
Fastener Type:	R:	MS-90353 RIVET
Fastener Dia.:	3:	3/16"

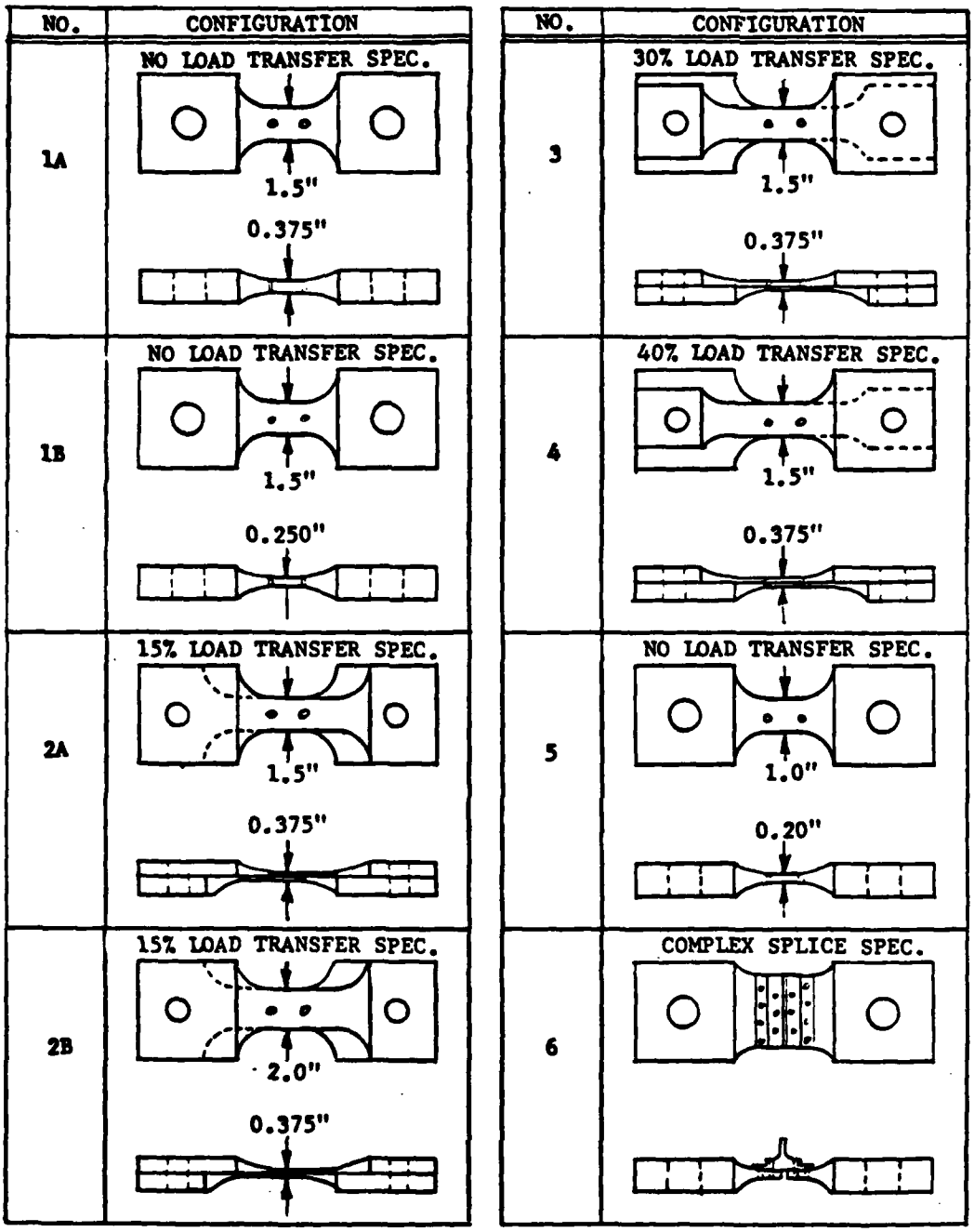


Figure 1 Specimen Configuration Designations

Note: Two different spacings used: S = 1.00"
S = 3.00"

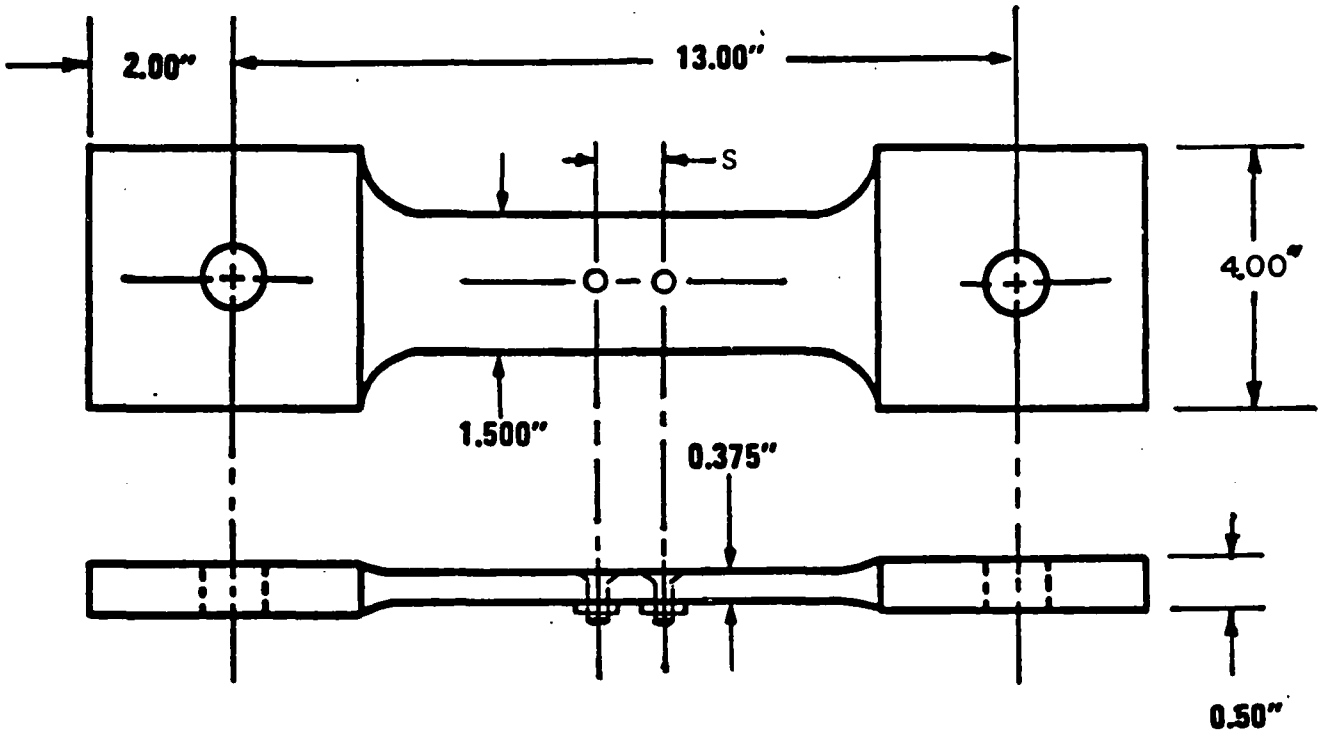


Figure 2 No-Load Transfer Specimen Design

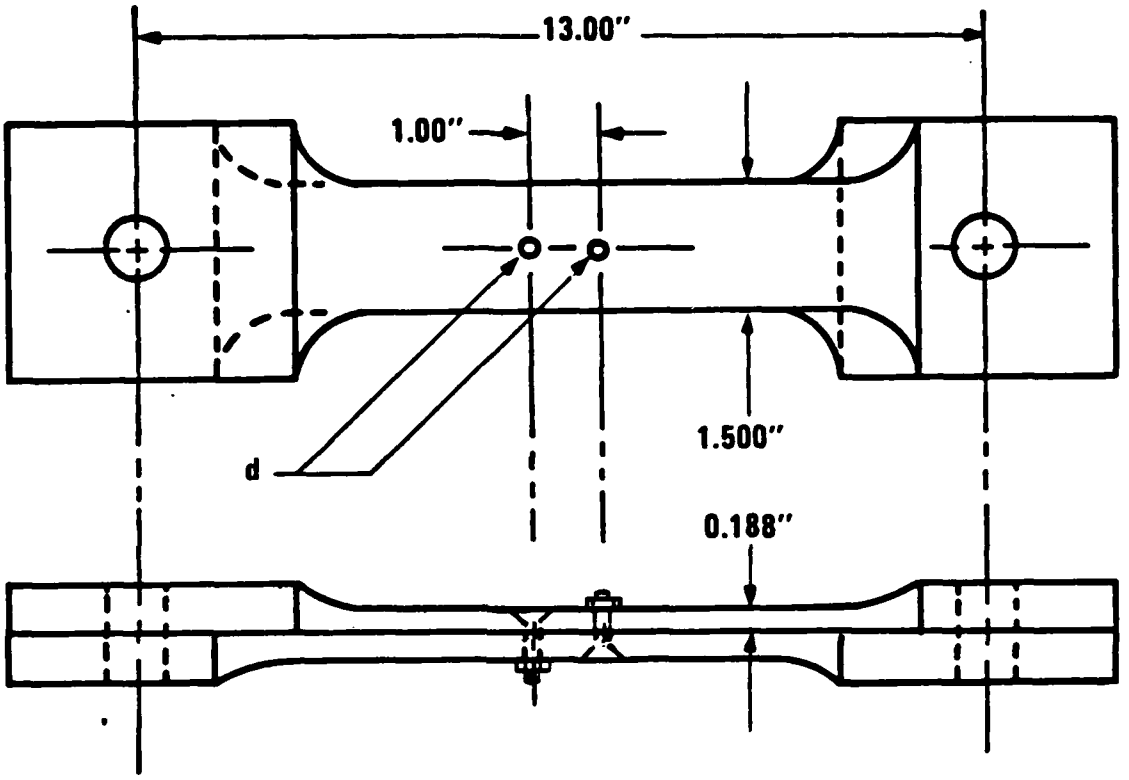


Figure 3 15% Load Transfer Specimen Design

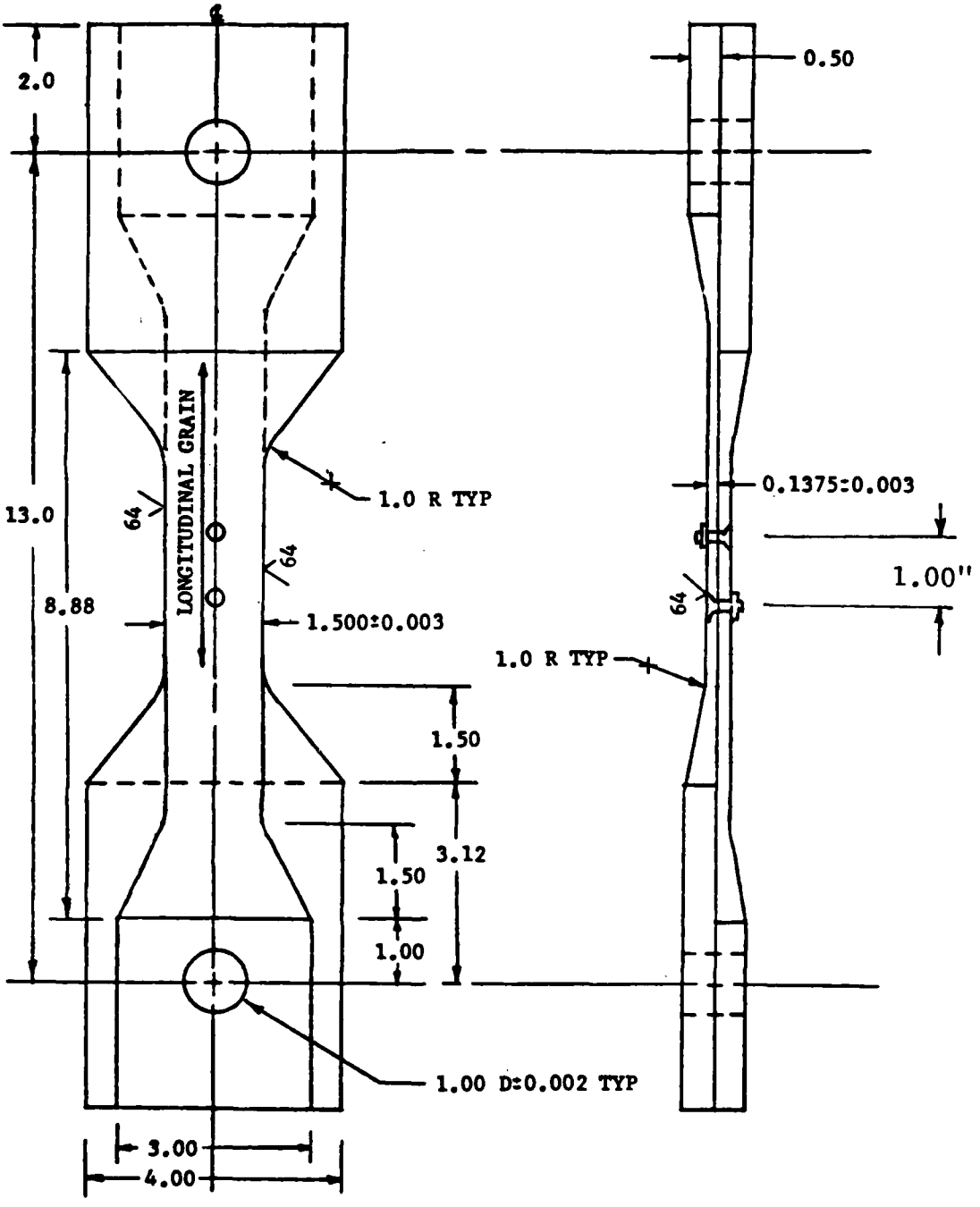


Figure 4 30% Load Transfer Specimen Design

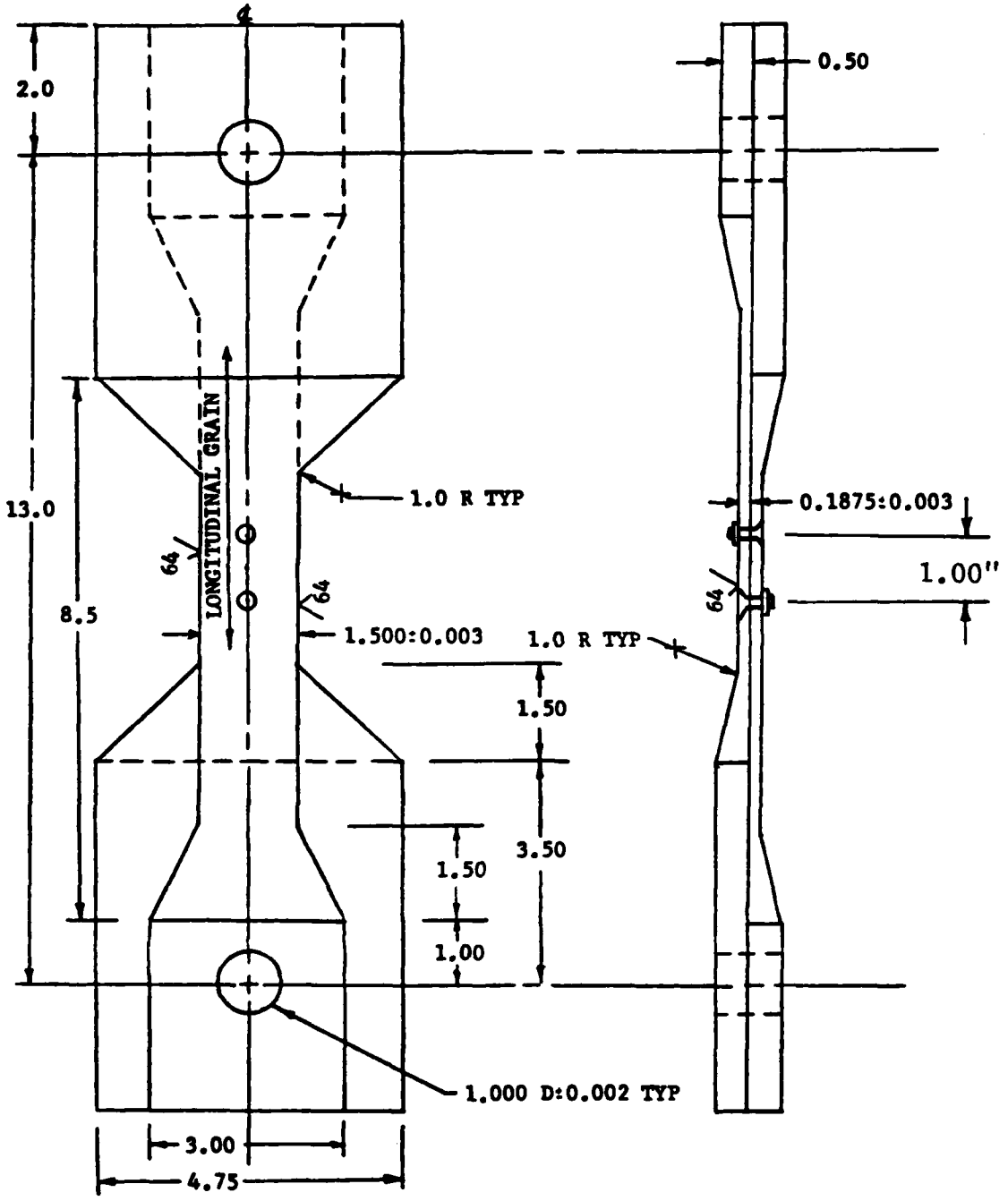


Figure 5 40% Load Transfer Specimen Design

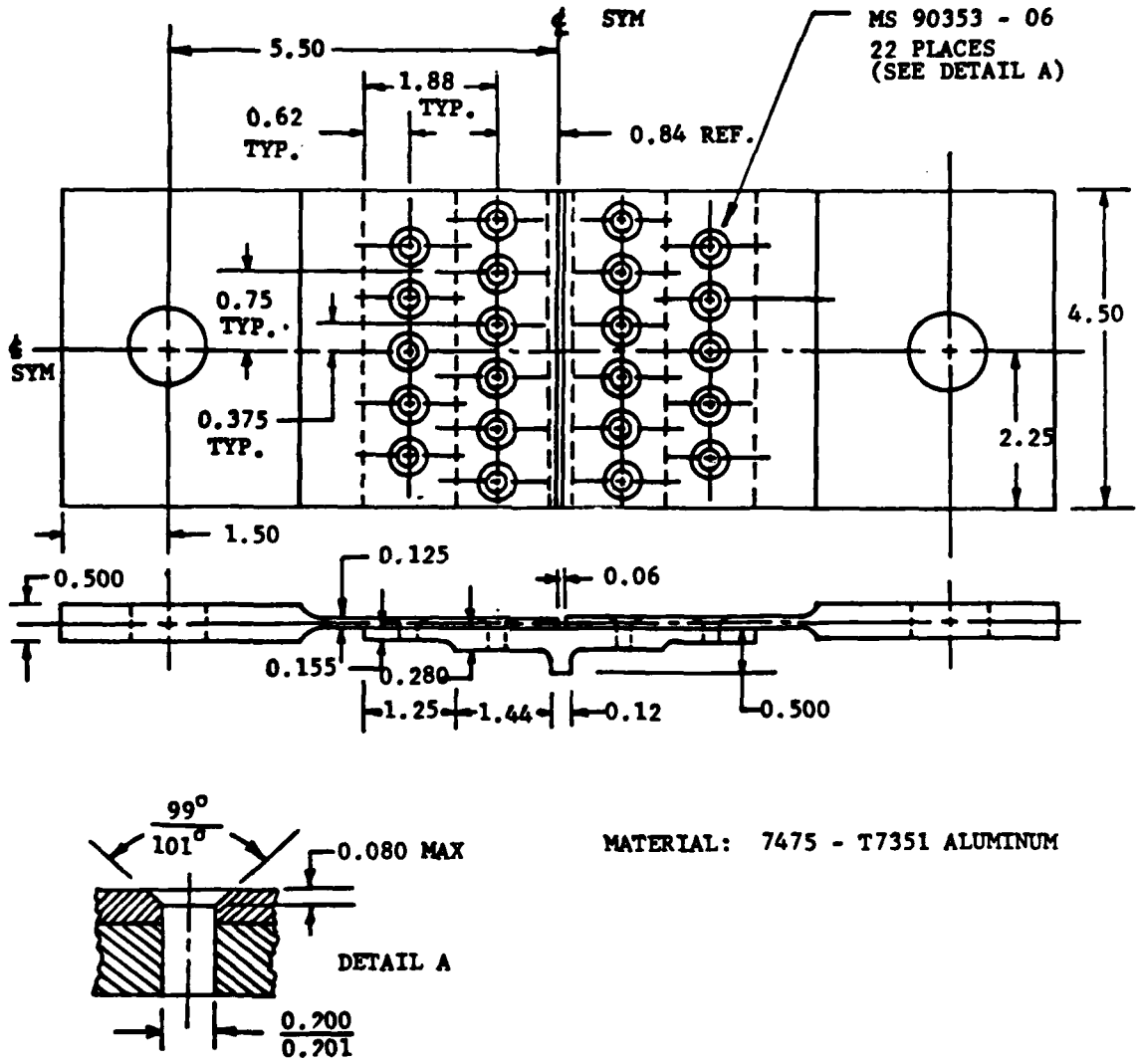


Figure 6 Complex-Splice Specimen Design

under this program using the no-load transfer specimen design shown in Figure 7.

The bolt load transfer specimens were designed assuming equal longitudinal deformation between the upper and lower dog bones between lug pin and fastener. Pins and fasteners were assumed to be rigid with no clearance between fastener or pin in the mating holes. The percent of bolt load transfer depends on the fastener and pin fit in their respective holes. Since the manufactured hole diameters vary from hole-to-hole, the actual amount of bolt load transfer also varies.

A free body diagram of a bolt load transfer specimen is shown in Fig. 8, and a stress analysis summary is presented in Table 4 for different percents of load transfer. The load transfer through the fastener affects the gross stress level across the dog-bones. For example, in Fig. 8 the gross stress between lug pin and fastener in the upper and lower dog-bones is equal for diagonally opposite pieces as noted. For this reason, fastener hole positions were identified so that fractography results for a given fastener hole crack could be associated with the proper stress level.

3.4 TEST SPECTRA

Specimens were tested using three flight-by-flight spectra: the F-16 500 hour random spectrum, the F-16 400-hour block spectrum, and the B-1 bomber spectrum. The basic F-16 design spectrum consisted of 16 unique 500 flight hour blocks in one service life of 8000 flight hours. A slight simplification produces an equivalent spectrum of two repeating 500 flight hour blocks, which is known as the F-16 500 hour random spectrum. This spectrum was used for the full-scale F-16 wing component durability test [15]. Further simplification of the F-16 design spectrum resulted in the 400 hour block spectrum for the wing of the F-16. The B-1 bomber spectrum is a randomized spectrum consisting of repeating 100 flight blocks where 1280 flights corresponds to 13,500 flight hours or one service life. Strip chart recorder traces of these three spectra are shown in Figs. 9-11.

Fatigue marker bands were very difficult to determine fractographically for the F-16 500 hour spectrum due to its random nature. Loads within a 500 hour block are not grouped in a manner to produce distinct fatigue marker bands. The 400 hour spectrum was considerably easier to

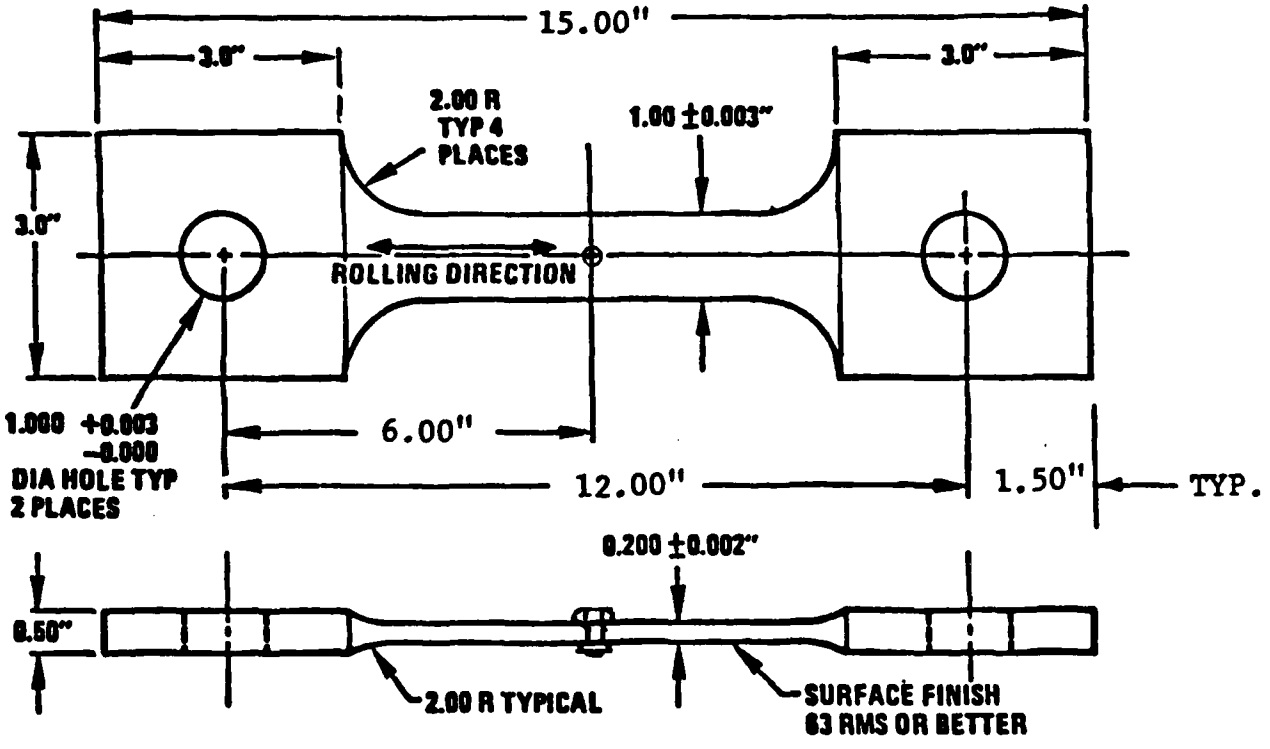


Figure 7 D6ac Steel Specimen Design

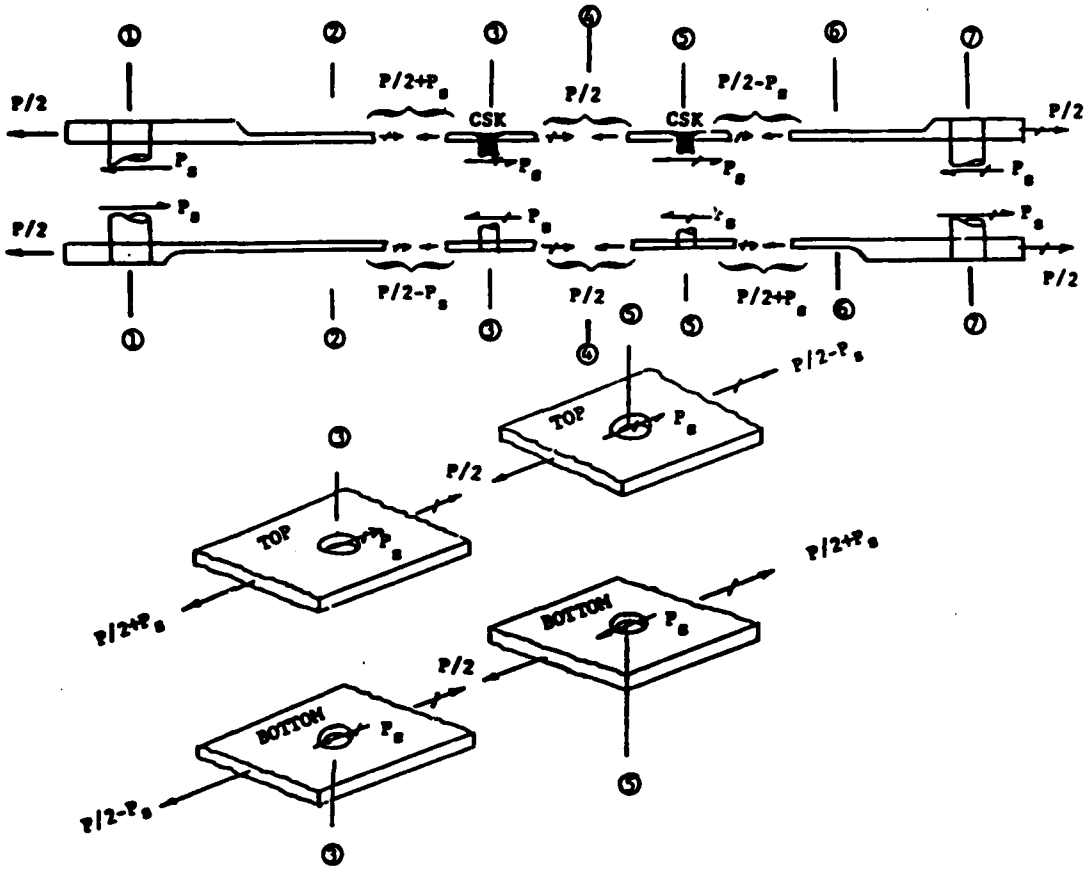


Figure 8 Load Transfer Specimen Free Body Diagram

Table 4 Stress Analysis Summary for Load Transfer Specimen

Load Transfer	Fastener Dia.	Fastener Sgl. Shr.	σ_G (ksi)	$\frac{P}{2}$	P_s	$\frac{P}{2}+P_s$	$\frac{P}{2}-P_s$	σ_2* (ksi)	σ_3* (ksi)	σ_4 (ksi)	f_{br}** (ksi)
0%	1/4	5900#	38	10.7k	--	--	--	38	--	47.0*	--
0%	3/16	3450#	38	10.7k	--	--	--	38	--	44.2*	--
15%	1/4	5900#	38	10.7k	1.6k	12.3k	9.1k	43.7 32.4	55.7 45.7	38	34.1
15%	3/16	3450#	34	9.6k	1.4k	11.0k	8.2k	39.1 29.2	46.2 39.0	34	39.8
30%	1/4	5900#	38	10.7k	3.2k	13.9k	7.5k	49.4 26.7	62.9 45.7	38	68.3
30%	3/16	3450#	34	9.6k	2.9k	12.5k	6.7k	44.4 23.8	52.5 39.0	34	82.5
40%	1/4	5900#	34	9.6k	3.8k	13.4k	5.8k	47.6 20.6	60.6 41.0	34	81.1

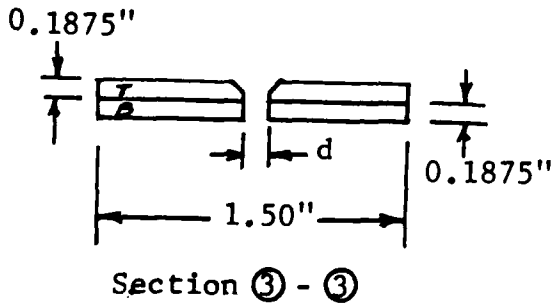
Notes

* Applicable net section stresses based on CSK hole

$\frac{xx}{yy}$ = $\frac{\text{Stress Top Plate}}{\text{Stress Bottom Plate}}$

** $f_{br} = \frac{P_s}{Dxt}$

Ref. Fig. 8 for details



Section ③ - ③

Material Properties for 7475-T7351

F_{TU} = 70 ksi

F_{Ty} = 60 ksi

F_{BRY} (e/D = 1.5) = 82 ksi

F_{BRY} (e/D = 2.0) = 97 ksi

F_{BRU} (e/D = 1.5) = 104 ksi

F_{BRU} (e/D = 2.0) = 136 ksi

Ref. MIL-HDBK 5 Pg. 3-340

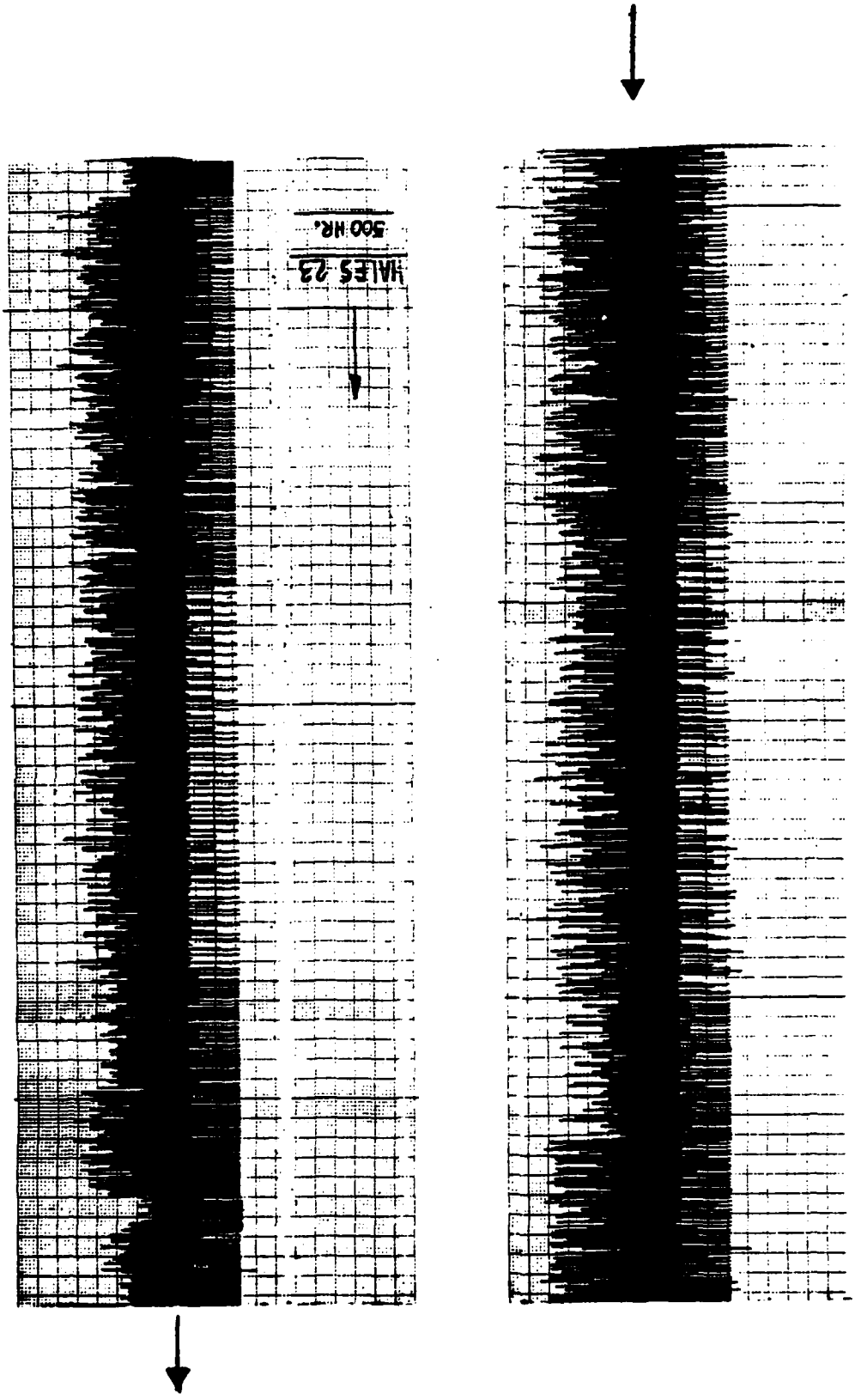


Figure 9 F-16 500 Hr. Block Spectrum

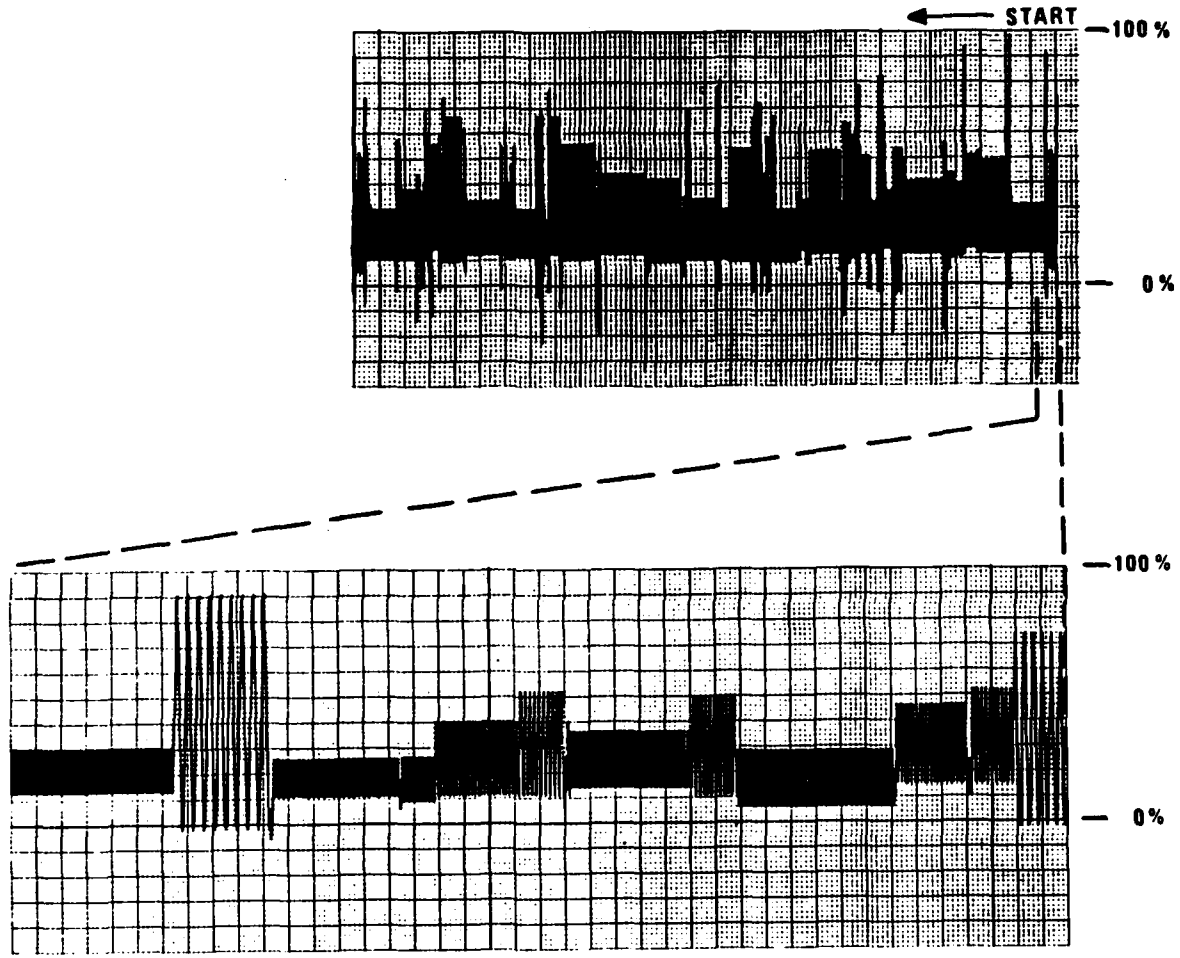


Figure 10 F-16 400 Hr. Block Spectrum

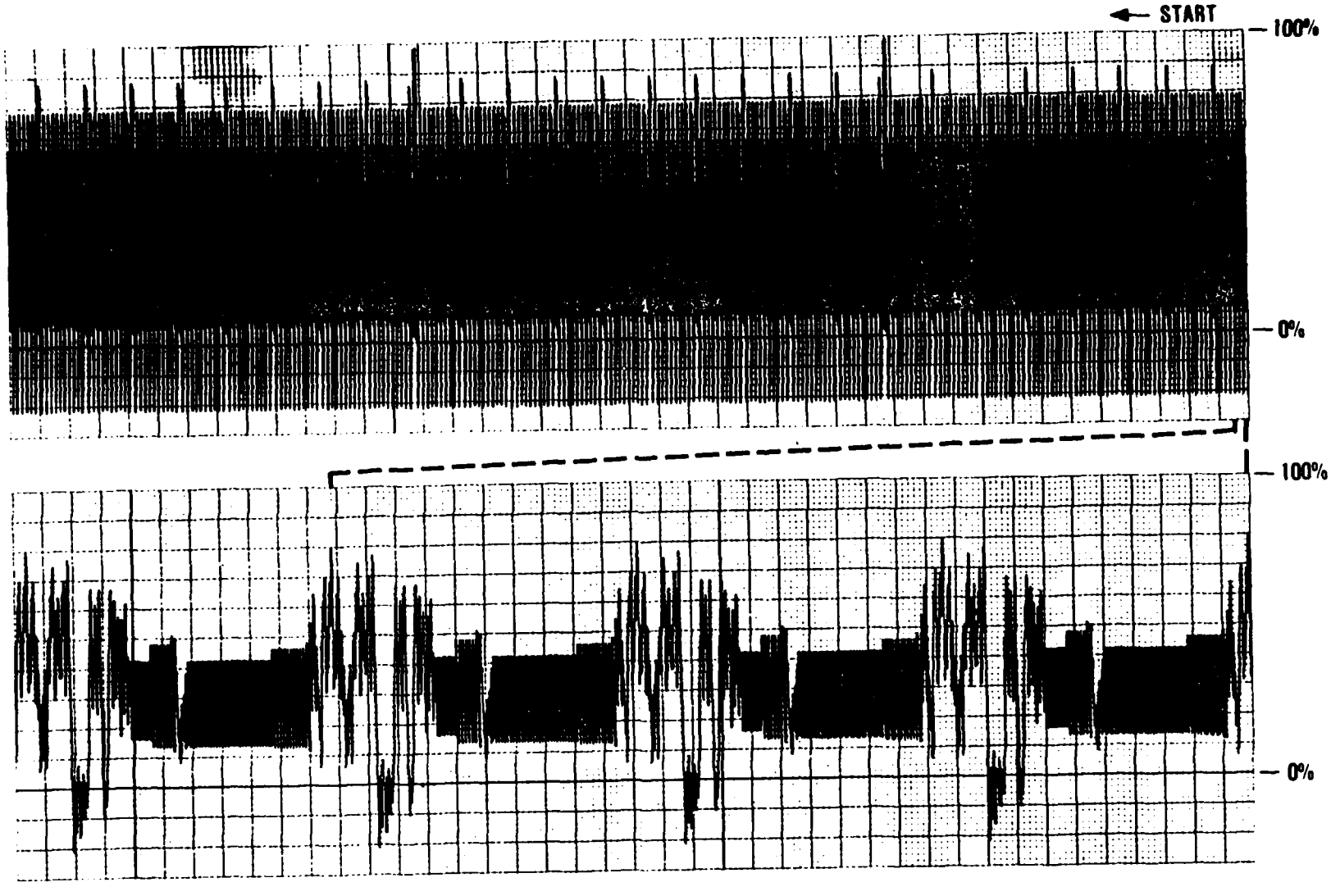


Figure 11 B-1 Bomber Spectrum

read because it was "blocked", and the B-1 spectrum was by far the easiest. Since the 500 hour random spectrum was used for the F-16 durability test and the lower wing skins from the durability test article were to be used for the demonstration of the durability analysis methodology, 75 coupon specimens were tested with this spectrum. However, because of the difficulty in obtaining crack growth data from these fracture surfaces and the inordinate time involved, these fractography data were not obtained. The relative severity of the three spectra can be obtained by comparing the number of load points, either peaks or valleys, which occur in a particular range of percent maximum load. This information is given for the three spectra used in Table 5. Whereas, the information in Table 5 for the 400 hour block spectrum and the B-1 bomber spectrum is the number of load points in one design service life, the numbers given for the 500 hour random spectrum are for 1/8 of one design service life. For direct comparison, these numbers should be multiplied by eight. Also, the maximum load in the 500-hour random spectrum is 86.4% of the maximum design load. Therefore, a percentage of 86.4 for the 500 hour spectrum would correspond to 100% for each of the other spectra.

3.5 FASTENERS AND DRILLING TECHNIQUES

Three types of fasteners were used in this program: NAS-6204 protruding head bolt, NAS-1580 countersunk bolt, and MS-90353 countersunk blind rivet. The NAS-6204 bolt, a close tolerance, steel, hex head bolt, was used extensively in the Fastener Hole Quality (FHQ) program [6]. FHQ fractographic results were also used to evaluate the durability methodology developed under this program [1,16]. To provide a "bridge" and direct comparison for durability and FHQ results, 30 specimens were tested under the durability program using the NAS-6204 bolt (1/4-inch dia.). Specimen details and test conditions were identical to those for the FHQ program. A total of 193 specimens were tested using the NAS-1580 bolt; ten of these were of 3/16-inch diameter and the remainder were 1/4-inch diameter. This is an alloy steel, 100° flush head bolt. A total of 472 specimens were tested using the MS-90353 rivet. Eighty-eight of these were 3/16-inch diameter, and the remainder were 1/4-inch diameter. This is a blind, pull-type rivet with a mechanical lock and 100° flush head made from a high strength alloy steel. When installed, the pull-through rivet did not fill the fastener hole like a typical "bucked" rivet. Therefore, the installed rivet was more like a bolt

Table 5 Breakdown of Load Points by 5% Intervals for Three Spectra

Range in Percent		Spectrum Johns II 400 Hr. F-16 765747 LP Total (8000 Flt Hrs)	Narona SPL B-1 Spectrum 330039 LP Total (13500 Flt. Hrs.)	Hales 23 500 Hr. F-16 109818 LP Total (1000 Hours)
Min	Max	Load Pts. in Range	Load Pts. in Range	Load Pts. in Range
-30.1	-35.0	60	0	0
-25.1	-30.0	0	0	0
-20.1	-25.0	60	1280	5
-15.1	-20.0	80	1280	23
-10.1	-15.0	200	5772	1000
-5.1	-10.0	440	3084	1789
-0.1	-5.0	3684	12	2345
0 at zero	0	10187	22855	7314
0.1	5.0	2880	6472	3331
5.1	10.0	59360	10916	12662
10.1	15.0	312566	68460	29138
15.1	20.0	920	14384	3475
20.1	25.0	3780	16676	5576
25.1	30.0	81300	16048	9404
30.1	35.0	100222	10636	10713
35.1	40.0	39024	9240	9271
40.1	45.0	66050	59404	5404
45.1	50.0	16526	31232	3379
50.1	55.0	35585	19468	1984
55.1	60.0	18770	5132	1269
60.1	65.0	1700	13080	875
65.1	70.0	8980	9472	418
70.1	75.0	1950	1560	348
75.1	80.0	551	3096	77
80.1	85.0	640	140	16
85.1	90.0	0	304	2
90.1	95.0	208	12	0
95.1	100.0	24	24	0

with a clearance-fit. The National Aerospace Standards specifications for these fasteners are given in Appendix A as well as the General Dynamics specification M-198 for their installation.

All drilling was performed using a modified Winslow Spacematic Model HS-1 which is a hand-held automatic drill. The Spacematic is pneumatically driven with pneumatic over hydraulic pressure for feed rate control and retraction. The Spacematic was modified as a result of the Fastener Hole Quality program to continue to revolve upon retraction. This eliminates axial drill marks in the hole bore and substantially improves the initial fatigue quality. This single-step drilling process required tooling to accurately control the hole location. The tooling used was representative of that used on the F-16 production line. The operators were also representative of those used on the F-16 production line. All holes were properly drilled with sharp cutters and adequate pneumatic line pressure. All load transfer specimens were match-drilled in pairs.

3.6 FASTENER HOLE SIZE ANALYSIS AND RESULTS

Hole diameters were measured and recorded for most specimens (numbers 221 through 706). Typical measurements for selected specimens are presented in Appendix D. Both the countersink diameter (H1) and diameter in the straight portion of the hole (H2) were recorded. The diameter of the straight-bore fastener holes were also measured and recorded (T). For these measurements, vernier calipers were used.

All fasteners were installed according to standard M198 (Appendix A). Dimensions and information on all three fasteners used in this program are also shown in Appendix A. All measured dimensions were within tolerance of the specification. For the nominal 1/4-inch diameters holes to be installed with the MS-90353 rivet, the hole tolerance allowed is .260-inch - .263-inch. Most of the holes inspected had diameters approximately .260-inch in diameter or were near the minimum tolerance allowed with this fastener. For the nominal 1/4-inch diameter holes to be installed with the NAS-1580 bolt, the hole tolerance allowed is .250-inch - .254-inch. Most of the holes inspected had diameters approximately .252-inch or were near the middle of the range allowed.

Hole dimensions for the complex splice specimens were also measured and recorded (Appendix D). Nominal 3/16-inch

diameter MS-90353 rivets were installed in these holes. Typical specimen hole diameters were approximately .203-inches. Measured diameters were slightly larger than the maximum diameter allowed by M198 specifications (.202-inch).

3.7 TEST FACILITIES AND PROCEDURES

All spectrum fatigue tests were performed in the Metallurgy Laboratory at GD/FWD on nine servo-controlled, hydraulically-actuated load frames. A typical test set up is shown in Fig. 12. A special hardware interface was used to monitor each load frame and to assure proper load control. This system provided a permanent record of test events.

Specimen dimensions were recorded. Then, the required load for the desired stress level was determined. The hole diameters and countersink depths were also measured and recorded. Typical results for selected specimens are summarized in Appendix D.

Each load transfer specimen contained four fastener holes in the test section. The amount of load transferred through the fastener affects the stress on the cross-section of each dogbone. Therefore, records were kept on hole positions in the specimens and the size of the largest crack in each hole.

Specimens were then loaded in the test frames and left to run. When the specimens had fatigued for the desired length of time, the unbroken dogbones were pulled apart and the failure load was recorded. If the specimen failed in the load frame, no failure load was recorded. The borken dogbones were then cut up and the fatigue cracks in each hole were exposed and numbered. The D6ac steel specimens were sprayed with a clear lacquer to protect the fracture surface from rust. The final sizes of all fatigue cracks were measured and the largest for each specimen were read fractographically. Fractography data for several secondary fatigue cracks were also acquired (Ref. Appendix B and C). Details of the fractography set-up and procedures are detailed in Section IV.

The complex splice specimen, shown in Fig. 6, was tested without lateral support using the same test frames used for the other tests. This same specimen design, for a different aluminum alloy (2124-T851), had been previously tested with and without lateral support [14]. Results of the strain survey indicated negligible effect of the lateral support on the resulting strains [14].

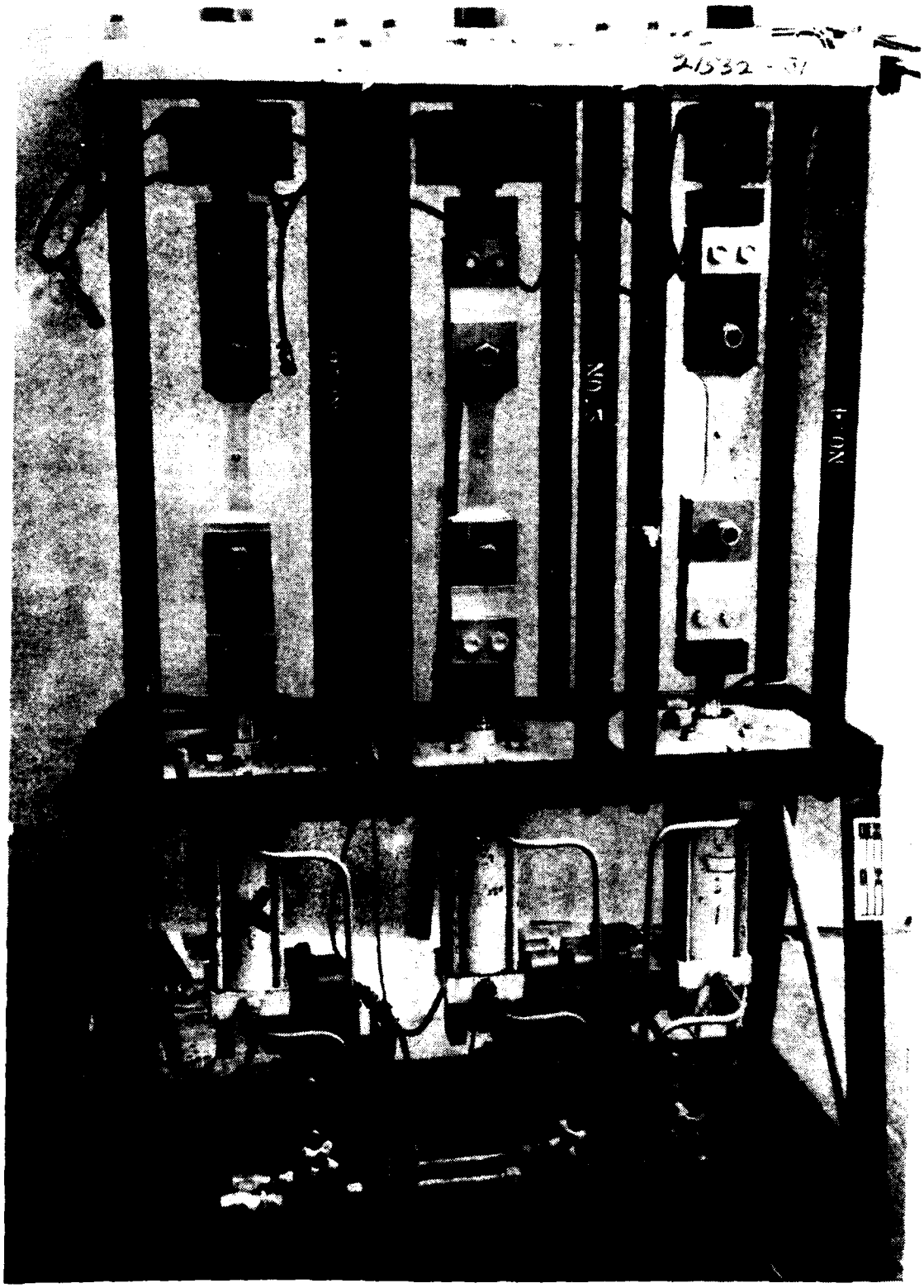


Figure 12 Coupon Specimens Mounted in Load Frames Used for Testing

3.8 TEST RESULTS

Table 6 lists the average, maximum and minimum fatigue life for all data sets tested in this program. In many cases, testing was terminated before coupons failed. The number of unfailed specimens tested to a specified flight hour are denoted in parentheses in Table 6. The average fatigue life of a data set was determined using results for both failed and unfailed specimens. This approach provides a conservative (too low) estimate of the average fatigue life. When comparing results for different data sets, the number of unfailed specimens in each data set should be accounted for.

The test matrix for this program included the following parameters:

- Specimen Geometry
- Fastener Type
- Stress Level and Test Spectra
- Load Transfer
- Plate Material

The effects of these parameters on fatigue life are discussed in Volume VII [1].

Table 6 Fatigue Lives of All Data Sets

Data Set Designation	No. of Specimens Tested	Maximum Fatigue Life	Average Fatigue Life	Minimum Fatigue Life
AFLR4	10	28,806	21,040	16,000
AFLR3	7	29,948	>20,165	16,000
AFMR4 (A)	10	27,206	19,954	13,078
AFMR4 (B)	11	16,000(11)	>16,000	16,000
AFMC4	10	16,000(6)	>15,247	11,879
AFHR4 (A)	10	16,000(6)	>13,390	7,206
AFHR4 (B)	9	16,000(8)	>15,244	11,235
AFXLR4	11	32,000(2)	>21,687	9,950
AFXLR3	12	30,806	20,645	11,635
AFXMR4	10	16,000(6)	14,087	6,006
AFXMR3	9	16,000(3)	13,927	10,007
AFXMC4	10	16,000(7)	>14,882	10,007
AFXMP4	10	16,000(10)	>16,000	16,000
AFXHR4	10	16,000(1)	9,622	4,807
AFXHR3	10	13,550	8,929	5,373
AFXHP4	9	10,035	8,703	8,006
AFYLR4	9	32,000(7)	>29,432	9,299
AFYMR4	10	16,000(9)	>15,801	14,006
AFYMC4	6	21,606 [16,000](5)	>15,201	7,606
AFYHR4	10	22,435	14,601	8,750
AFZ1R4	6	16,000(3)	>15,208	12,035
AFZLR4	6	32,000(2)	>26,319	16,000(2)
AFZMR4	4	16,000(4)	>16,000	16,000
AFZMR4	6	23,878	19,421	16,278
AFZMC4	2	5,635	5,392	5,549
AFZHR4	9	13,635	7,754	3,606
ABLR4	6	6,829	5,521	3,840
ABLR4 (A)	10	3,840	2,595	1,779
ABLR4 (B)	11	3,840(10)	> 3,804	3,439
ABMR4 (A)	11	3,529	2,973	2,339
ABMR4 (B)	11	3,840(1)	2,807	1,679
ABHR4 (A)	10	2,759	2,212	1,719
ABHR4 (B)	11	3,019	1,851	1,039
ABXLR4	11	3,854	2,832	1,549
ABXLC4	12	2,959	2,328	1,259
ABXMR4 (A)	11	3,659	2,020	1,369
ABXMR4 (B)	10	3,209	1,753	1,094
ABXMR3	10	1,879	1,389	1,099
ABXMC4	10	2,179	1,689	999
ABXHR4	11	2,589	1,377	799
ABXHC4	10	2,059	1,112	568
ABYLR4	10	5,809	4,052	2,439
ABYLC4	10	3,840	2,994	1,999
ABYMR4	10	3,840	2,698	2,179
ABYMR3	10	3,085	2,480	1,409
ABYMC4	10	3,059	2,307	1,639
ABYMC3	10	3,840	2,573	1,809
ABYHR4	10	3,259	2,469	1,349
ABYHC4	10	3,119	1,491	890
ABZLR4	10	3,840(7)	3,620	1,939
ABZLC4	10	3,629	2,333	1,419
ABZMR4	10	3,840(3)	> 2,777	1,099
ABZMC4	10	2,559	1,780	1,089
ABZHR4	10	3,459	2,100	799
ABZHC4	10	3,059	1,957	859
ADMR4	10	16,000(10)	>16,000	16,000
ADHR4	10	16,000(7)	>15,323	10,542
ADXLR4	10	32,000(1)	21,767	16,000(4)
ADXLR4	10			
ADXMR4	13	16,000(10)	>15,525	11,495
ADXMR3	6	16,000(5)	>15,730	14,382
ADXHR4	10	16,000(1)	12,552	7,677
TBLC4	10	3,840(3)	> 3,325	2,279
TBMC4	10	3,053	2,388	1,679
TBXMC4	10	3,399	2,800	1,779
TBXHC4	10	939	742	579
CBSL	1	3,840(1)	> 3,840	3,840
CBSL	11	2,589	1,982	1,319
CBSH	12	3,162	1,079	759

SECTION IV

FRACTOGRAPHY ANALYSIS

4.1 FRACTOGRAPHY PROCEDURES AND RESULTS

All fractography was read on one of two Zeiss microscopes. The Metallurgy Lab at the GD/FWD maintains a Zeiss Ultraplot II metallograph with 40-1100X usable magnification in air. This microscope has bright and dark-field capabilities, and polarized and Nomarski illumination. The microscope, shown in Fig. 13, includes a fractography reading/recording system for efficiently acquiring the fractography data. The system included a digital dial gage, a digital display, an interface buffer amplifier, an HP 5050A printer and push-button recorder. Using this system, the reader can read and record the fractography without taking his eyes off the microscope. This reduced eye-fatigue considerably.

The other microscope used for fractography was a Zeiss Universal with 50-1600X usable magnification. This microscope also has bright and dark field capabilities and polarized and Nomarski illumination. It was equipped with a video camera and recorder for monitoring with a television camera. The video monitor had a crosshair generator for aligning the crosshairs in the objective lense with the crosshairs on the monitor. Fractography measurements could be made directly from the video monitor. The microscope stage was equipped with LVDT's in both the X and Y axes, with digital indicators to show stage translations. These were used to make measurements of the fracture surface. Although the resolution of the video monitor was very good and it could be used to make crack length measurements at longer crack sizes, it was generally insufficient for making measurements around the crack origin. The video camera, however, reduced eye fatigue for the reader. This microscope was integrated with a PDP 11/03 computer to simultaneously read and record crack lengths. This allowed the reader to keep his eyes on the eyepieces while acquiring the fractography data. The reader merely loads the program into the computer, zeroes the digital indicators and presses a button to record the readings when finished. The computer lists and stores the data, and provides a plot of crack size versus cycles. This system minimized fractography reading time for each fatigue crack.

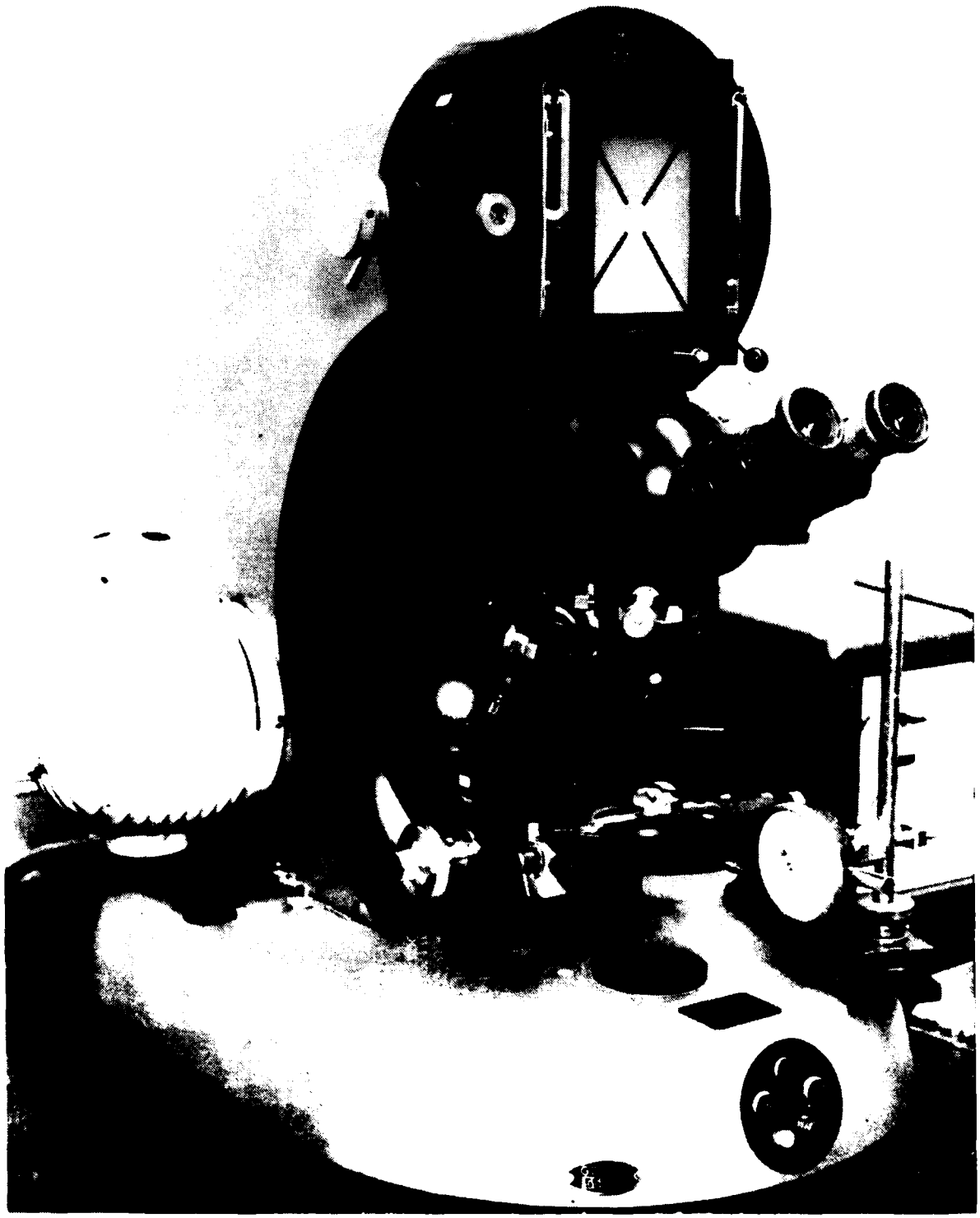


Figure 13 Photograph of Zeiss Microscope

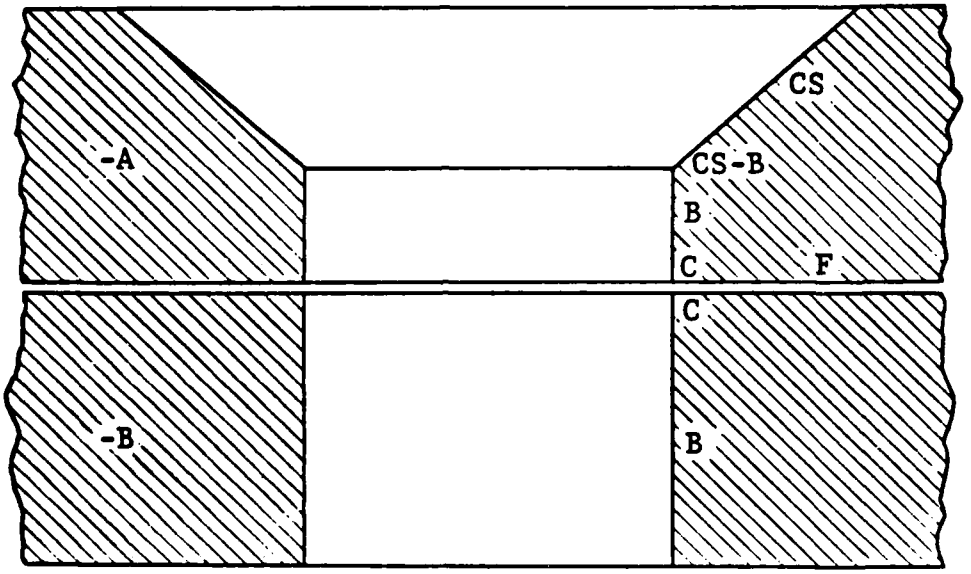
Before reading a specimen, the fracture surface was ground and cleaned. All shear lips were ground off without damaging the fracture surface. At this point, the specimen was cleaned ultrasonically in acetone. A cellulose-acetate tape was softened using acetone and then pressed firmly against the fracture surface. This removes the surface dirt or residue. This process was usually repeated several times for best results. The specimen was then mounted onto the microscope stage using a piece of clay to hold it in place. The digital indicators were zeroed at the origin of the fatigue crack and the crosshair was moved and positioned at the point of failure of the fatigue crack. This was recorded as the maximum crack length. The crosshair was then moved back toward the origin and the maximum crack length, a, for each spectrum band was recorded. After reading as close to the origin as possible, the crack growth increments, Δa were computed. Crack size versus time measurements and other pertinent details were recorded on fractography data sheets. This includes a sketch of the fracture surface, showing origin locations, peculiarities, etc.

Fractography results are shown in Appendix B for coupons tested under the F-16 400 hour block spectrum and Appendix C contains fractography data for specimens tested using the B-1 bomber spectrum. Included with the crack growth data is load transfer, fastener type, stress level, test data, fatigue life, failure load where applicable, and initiation location for each individual coupon. Also, included in the notes were final crack sizes for fatigue cracks found in other holes of the specimen. In some coupons, no cracks were obtained after a specified test period. These coupons were denoted in the Appendix as containing no cracks.

4.2 CRACK INITIATION LOCATIONS

Following fatigue testing, each failed specimen was examined in order to determine, if possible, the primary origin of failure. In many failed specimens, more than one crack origin existed, making failure analysis more difficult.

A coded system of failure sites was established for the load transfer coupons and is presented in Fig. 14. The coding for the no-load transfer specimens is the same except that only one section is involved. Initiation locations are presented along with the fractography data in Appendix B and Appendix C.



CS - Countersink Region
CS-B - Countersink-Bore Intersection
B - Bore of the Hole
C - Corner
F - Faying Surface

Figure 14 Coding System for Indexing Fatigue Crack Origins

In addition, the individual holes from which this data was obtained, were identified. In the no-load transfer specimens, holes were labeled A and B. The hole specified A was nearest the specimen edge containing the specimen identification number. For the load-transfer coupons, holes were labeled HA, HB, TA, and TB. Holes HA and HB were holes in the section containing the countersink while holes TA and TB were in the thru section. The lettering A and B had the same meaning as for the no-load transfer coupons. For example, HA identification means fractography data is presented from a hole nearest the specimen identification number in the countersunk section.

Fractography data for several secondary fatigue cracks are also presented in Appendix B and C for the F-16 400 hour spectrum and the B-1 spectrum, respectively. Data sets with secondary crack data are noted on pages B-3 and C-3.

SECTION V

TEAR-DOWN INSPECTION OF F-16 DURABILITY TEST ARTICLE (WING BOX)

Full-scale F-16 wing box structure, shown in Fig. 15, was fatigue tested under the F-16 durability certification program [15,17]. Right and left hand wing boxes were fatigue tested using the F-16 500 hour spectrum. Both wings were tested the same way, (i.e., lab air, same load spectrum and stress levels, etc.).

The F-16 durability test article (wings) was fatigue tested to two service lives (i.e., 16000 flight hours) using the F-16 500 hour spectrum. After completing the F-16 durability certification requirements, the durability test article (wings) was dedicated to the "Durability Methods Development" (DMD) program.

A tear-down inspection of the F-16 durability test article (wings) was performed under Phase II of the DMD program. All fastener holes and cutouts in both wing lower skins (7475-T7351 aluminum) were inspected (over 3000 holes) using the eddy current techniques. Also, approximately forty fastener holes per spar (20 upper and 20 lower at the inboard end) were also inspected.

All fastener holes in the lower wing skins with an indicated crack were evaluated fractographically. Fastener holes with an indicated crack after 16000 hours of fatigue testing (F-16 500 hour spectrum) are identified in Figs. 16 and 17 for the right hand and left hand lower wing skin, respectively. Fractographic results are summarized in Tables 7 through 10. Results of the tear-down inspection, documented in this section, are used to demonstrate the durability analysis methodology [1,5,16,18]. The tear-down inspection is also discussed in Section 6.3 of Volume VII [1] and elsewhere [19-21].

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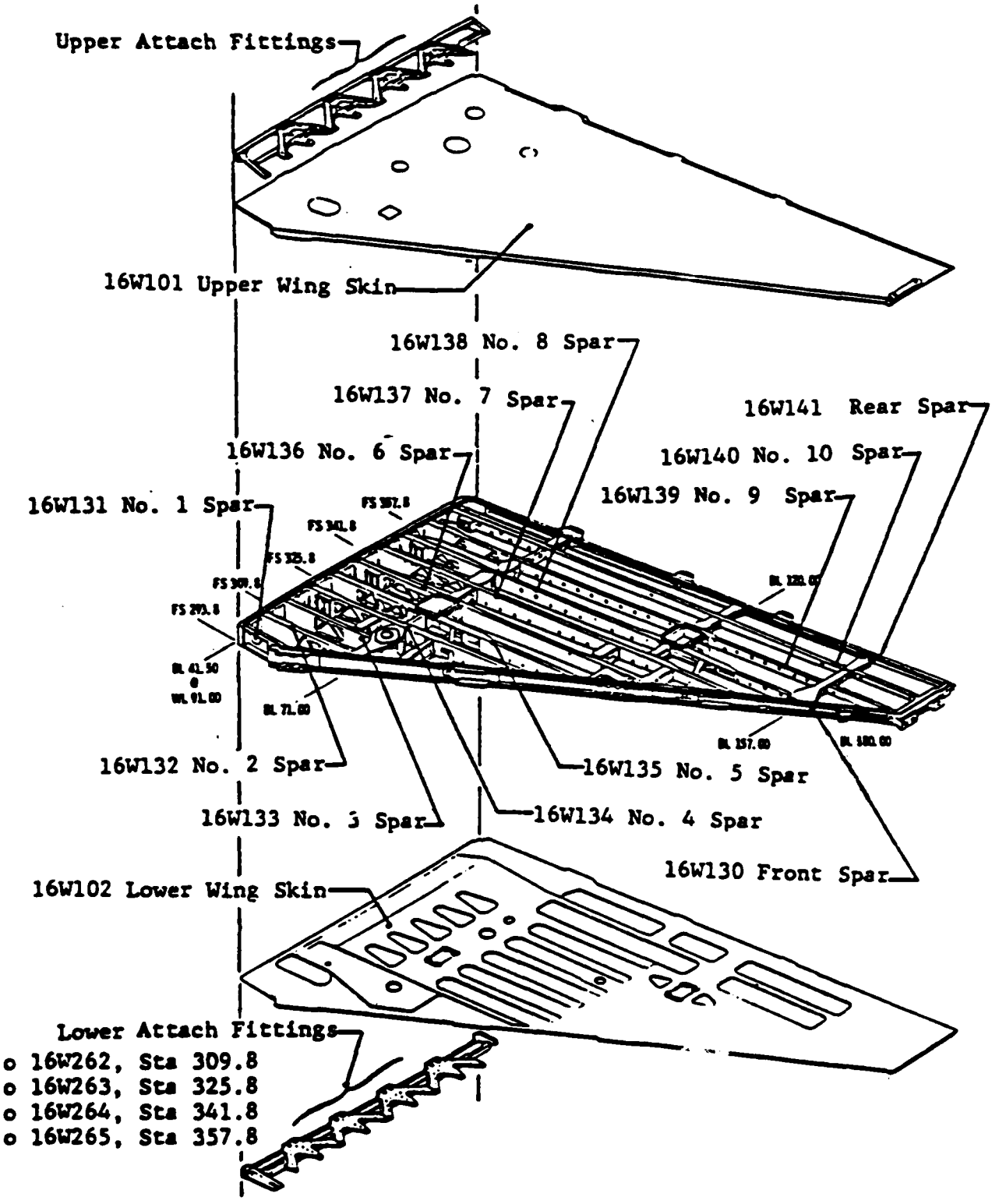


Figure 15 F-16 Basic Wing Box Structure

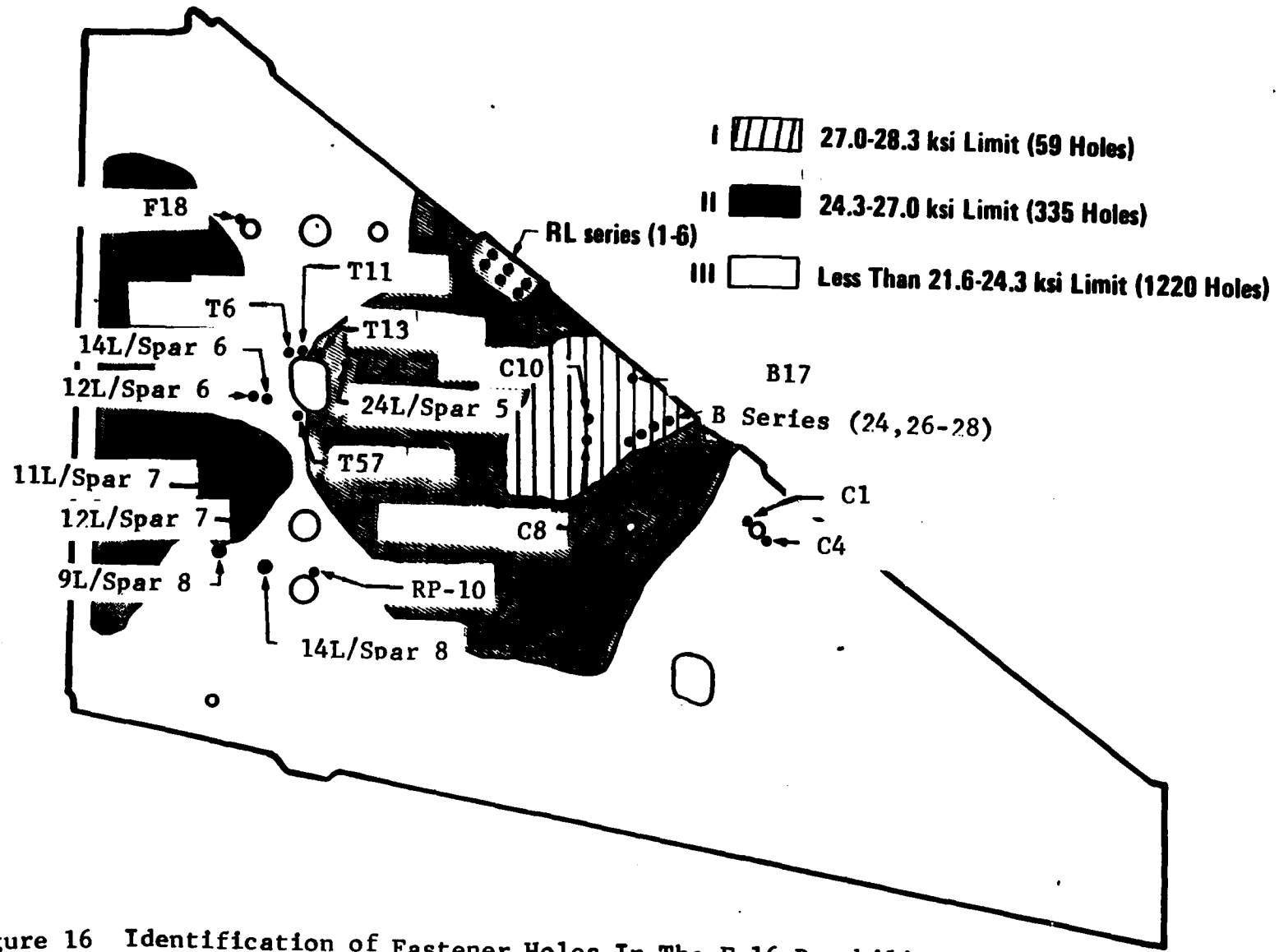


Figure 16 Identification of Fastener Holes In The F-16 Durability Component Lower Right Hand Wing Skin With Observed Cracks (After 16000 Hrs. of Testing With F-16 500 Hr. Spectrum)

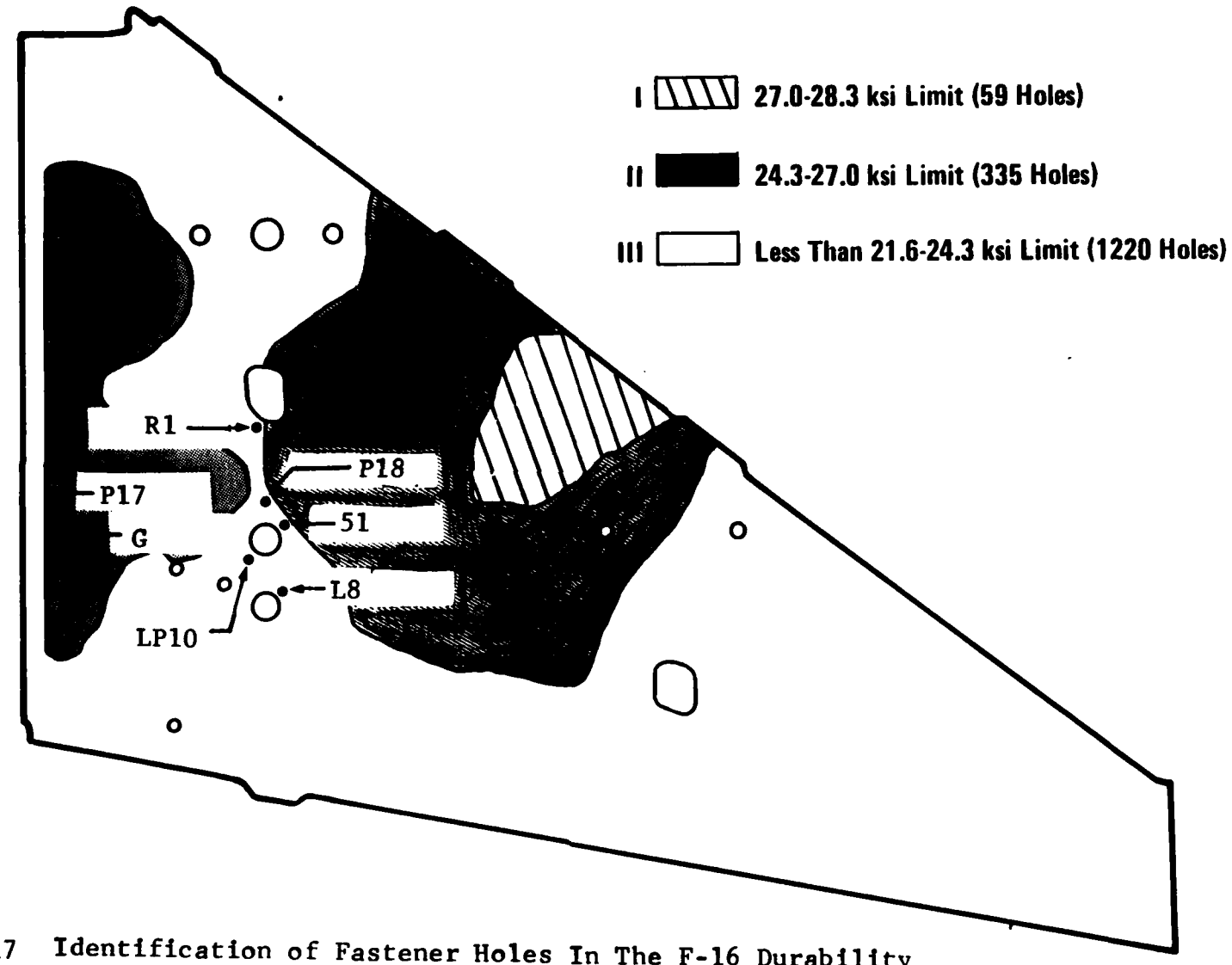
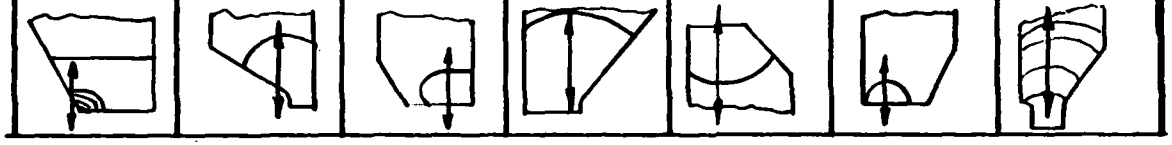


Figure 17 Identification of Fastener Holes In The F-16 Durability Component Lower Left Hand Wing Skin With Observed Cracks (After 16000 Hrs. of Testing With F-16 500 Hr. Spectrum)

Table 7 Fractography Results for F-16 Lower Wing Skin (Right Hand)/ Durability Test Article) - Stress Zone I

Hole No / *Flight Hours	Crack Length (IN)***						
	C8	C10	B17	B24	B26	B27	B28
16000	0.0177	0.1482	0.0634	0.1495	0.1560	0.0423	0.2744
15000	0.0154	0.0988	0.0435	0.0975	0.0949	0.0304	0.1928
14000	0.0137	0.0637	0.0314	0.0598	0.0585	0.0254	0.1337
13000	0.0123	0.0403	0.0218	0.0340	0.0338	0.0207	0.0969
12000	0.0109	0.0293	0.0139	--	--	0.0153	0.0724
11000	0.0094**	0.0208	--	--	--	0.0115	0.0573
10000	--	--	--	--	--	--	0.0437
9000	--	--	--	--	--	--	0.0319
8000	--	--	--	--	--	--	0.0197**
7000	--	--	--	--	--	--	--
6000	--	--	--	--	--	--	--
5000	--	--	--	--	--	--	--
							

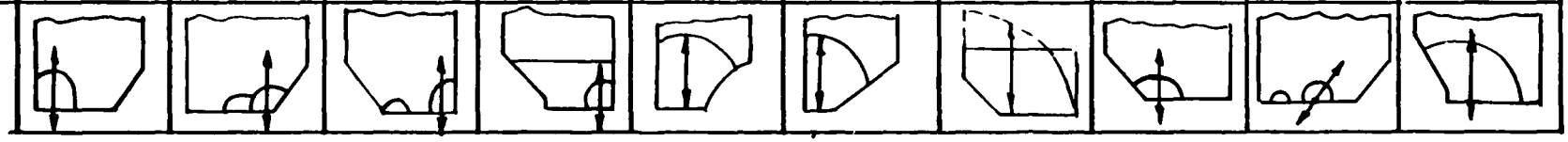
* F-16 500 Hour Block Spectrum

** Vague

*** Perimeter dimensions along direction of crack growth/crack measurements

Table 8 Fractography Pesults for F-16 Lower Wing Skin (Right Hand/ Durability Test Article) - Stress Zone II

Hole No / *Flight Hours	Crack Length (IN) ***									
	RL-1	RL-2	RL-3	RL-4	RL-5	RL-6	T13	11L/Spar 7	12L/Spar 7	24L/Spar 5
16000	0.0413	0.0362	0.0353	0.0297	0.2160	0.2016	0.1814	0.0481	0.0401	0.1339
15000	0.0297	0.0294	0.0270	0.0229	0.1448	0.1354	0.0893	0.0247	0.0267	0.0965
14000	0.0217	0.0245	0.0205	0.0178	0.1152	0.1094	0.0446	0.0130	0.0155	0.0677
13000	0.0129	0.0204	0.0144	0.0133	0.0893	0.0922	0.0202	--	0.0076	0.0461
12000	0.0068**	0.0177**	--	--	0.0691	0.0806	--	--	0.0020**	0.0302
11000	--	0.0149**	--	--	0.0533	--	--	--	--	0.0216
10000	--	--	--	--	0.0418	--	--	--	--	0.0144
9000	--	--	--	--	--	--	--	--	--	--
8000	--	--	--	--	--	--	--	--	--	--
7000	--	--	--	--	--	--	--	--	--	--
6000	--	--	--	--	--	--	--	--	--	--
5000	--	--	--	--	--	--	--	--	--	--

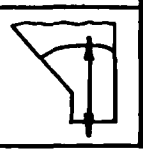
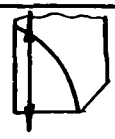
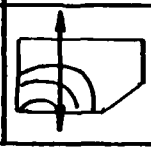
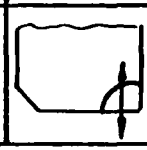
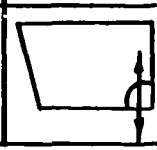
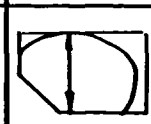
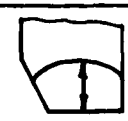
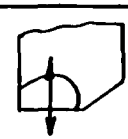
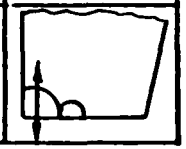


* F-16 500 Hour Block Spectrum

** Vague

*** Perimeter dimensions along direction of crack growth/crack measurements

Table 9 Fractography Results for F-16 Lower Wing Skin (Right Hand/ Durability Test Article) - Stress Zone III

Hole No / *Flight Hours	Crack Length (IN) ***									
	C1	C4	F18	RP-10	T6	T11	T57	12L/Spar 6	14L/Spar 6	14L/Spar 8
16000	0.1456	0.0239	0.1833	①	0.0308	0.0369	0.1613	0.3456	0.1079	0.0157
15000	0.0884	0.0183	0.1407	0.1430	0.0210	0.0247	0.1382	0.2822	0.0832	0.0110
14000	0.0520	0.0147	0.1043	0.0923	0.0149	0.0187	0.1181	0.2246	0.0663	0.0082
13000	--	0.0117	0.0863	0.0520	0.0107	0.0134	0.0980	0.1786	0.0507	0.0056
12000	--	0.0098	0.0587	0.0280	0.0074	0.0094**	0.0806	0.1426	0.0390	0.0038**
11000	--	0.0082	0.0398	0.0143	--	--	0.0648	0.1094	0.0286	--
10000	--	--	0.0294	--	--	--	0.0490	0.0835	0.0208	--
9000	--	--	--	--	--	--	0.0360	0.0634	--	--
8000	--	--	--	--	--	--	--	0.0504	--	--
7000	--	--	--	--	--	--	--	0.0374	--	--
6000	--	--	--	--	--	--	--	0.0288	--	--
5000	--	--	--	--	--	--	--	0.0230	--	--
										

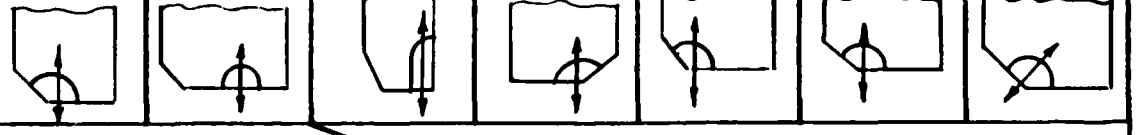
* F-16 500 Hour Block Spectrum

** Vague

① Perimeter Beyond Readings

*** Perimeter dimension along direction of crack growth/crack measurements

Table 10 Fractography Results for F-16 Lower Wing Skin (Left Hand/ Durability Test Article)

Hole No / *Flight Hours	Crack Length (IN) ***						
	G	P17	51	L8	LP10	P18	R1
16000	0.0815	0.0252	0.0327	0.0590	0.065	0.0741	0.0406
15000	0.0616	0.0176	0.0244	0.0409	0.0533	0.0533	0.0227
14000	0.0455	0.0119	0.0197	0.0297	0.0429	0.0377	0.0137
13000	0.0349	0.0083	0.0131	0.0178	0.0325	0.0273	0.0069
12000	0.0217	0.0054	--	0.0083	0.0234	0.0189	--
11000	0.0165	--	--	--	0.0176	0.0130	--
10000	0.0123	--	--	--	0.0130	--	--
9000	0.0094	--	--	--	--	--	--
8000	--	--	--	--	--	--	--
7000	--	--	--	--	--	--	--
6000	--	--	--	--	--	--	--
5000	--	--	--	--	--	--	--
							
	Stress Zone II			Stress Zone III			

* F-16 500 Hour Block Spectrum

*** Perimeter dimension along direction of crack growth/crack measurements

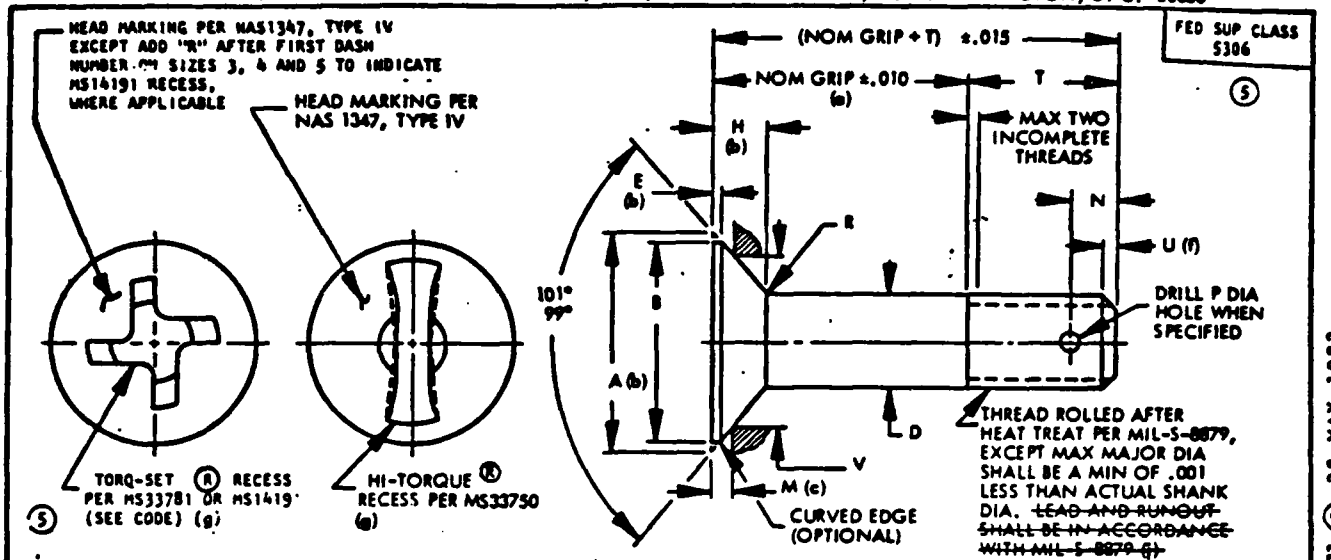
APPENDIX A

Fastener Installation Specifications

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W. WASHINGTON, D. C. 20036

FED SUP CLASS 5306



FIRST DASH NO.	THREAD UNJF-3A	A DIA MAX (b)	B DIA MIN	D DIA Plated	D DIA Un-Plated	E MAX (b)	H REF (b)	M GAGE PROT (c)	N	P DIA	R RAD	T	U REF (f)	V GAGE DIA	Y TIR (d)	Z (e)	TENSILE STRENGTH LBS. MIN (j)
- 3	.1900-32	.3813	.339	.1895 .1885	.1895 .1890	.015	.083	.0285 .0255	.126 .106	.080 .070	.035 .015	.363	.050	.3147 .3145	.005	.0040	3,180
- 4	.2500-28	.5066	.464	.2495 .2485	.2495 .2490	.015	.111	.0351 .0319	.126 .106	.086 .076	.035 .015	.403	.050	.4245 .4243	.006	.0030	5,790
- 5	.3125-24	.6335	.578	.3120 .3110	.3120 .3115	.015	.140	.0409 .0370	.130 .110	.086 .076	.045 .025	.501	.060	.5389 .5387	.007	.0030	9,260
- 6	.3750-24	.7604	.717	.3745 .3735	.3745 .3740	.015	.167	.0459 .0422	.130 .110	.116 .106	.045 .025	.594	.060	.6532 .6530	.008	.0025	14,000
- 7	.4375-20	.8884	.826	.4370 .4360	.4370 .4365	.022	.195	.0470 .0425	.134 .114	.116 .106	.055 .035	.675	.080	.7784 .7782	.009	.0025	19,000
- 8	.5000-20	1.0139	.951	.4995 .4985	.4995 .4990	.022	.222	.0529 .0482	.134 .114	.116 .106	.055 .035	.768	.080	.8902 .8900	.010	.0020	25,600
- 9	.5625-18	1.1408	1.071	.5615 .5605	.5615 .5610	.025	.250	.0590 .0541	.134 .114	.151 .141	.055 .035	.881	.090	1.0028 1.0026	.010	.0020	32,400
-10	.6250-18	1.2723	1.201	.6240 .6230	.6240 .6235	.025	.280	.0683 .0631	.134 .114	.151 .141	.055 .035	.981	.090	1.1124 1.1122	.010	.0020	40,900

(a) GRIP LENGTH IS FROM TOP OF BOLT HEAD TO END OF FULL CYLINDRICAL PORTION OF SHANK.

(b) A, E, AND H ARE INCLUDED FOR ENGINEERING REFERENCE PURPOSES ONLY AND ARE NOT TO BE USED FOR INSPECTION. VALUES A, E, AND H ARE CALCULATED LIMITS RESULTING FROM TOLERANCE ON B, D, M, V, AND HEAD ANGLE.

(c) DIMENSIONS FOR M GAGE PROTRUSION SHALL BE INSPECTED PER NAS 527.

(d) HEAD EDGE OUT OF ROUNDNESS SHALL NOT EXCEED "Y" TIR.

(e) SHANK SHALL BE STRAIGHT WITHIN "Z" VALUES TIR PER INCH OF LENGTH.

(f) POINT SHALL BE FLAT AND CHAMFERED. CHAMFER PLUS INCOMPLETE THREAD SHALL NOT EXCEED "U". (5)

(g) BOLT RECESS SHALL BE TORQUE TESTED IN BOTH INSTALLATION AND REMOVAL DIRECTIONS WITH APPLICABLE MS33781, MS14191 OR MS33750 DRIVER WITH AXIAL END PRESSURE NOT EXCEEDING 15 POUNDS. BOLTS ARE REJECTABLE IF MINIMUM TORQUE VALUES LISTED ON SHEET 2 CAUSE FRACTURE OF BOLT OR DISTORTION WHICH RESULTS IN RAISE OF METAL AT EDGE OF SLOT EXCEEDING .005 ABOVE SURROUNDING AREA. SAMPLING SHALL BE PER MIL-STD-105, 4% AQL LEVEL S-1.

~~(h) BOLTS WITHOUT PILOT DEPRESSION IN RECESS MAY BE SUPPLIED UNTIL 30 SEPT. 1971.~~

(i) THESE TENSILE VALUES APPLY TO ALLOY STEEL AND A-286 CRES PARTS ONLY. TENSILE VALUES FOR 6AI-4V TITANIUM ALLOY ARE LISTED IN NAS 621.

~~(j) FASTENER SUPPLIERS MAY SUPPLY FASTENERS WITH MIL-S-7742 THREADS UNTIL 30 SEPT. 1971. FASTENERS WITH MIL-S-7742 THREADS MAY BE USED UNTIL STOCK IS DEPLETED.~~

(5)

LIST OF CURRENT SHEETS				
SHEET	1	2	3	4
REV	5	5	5	NEW

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE

PROCUREMENT SPECIFICATION	TITLE	CLASSIFICATION
NOTED	BOLT, 100° FLUSH HEAD	STANDARD PART
		NAS 1580 SHEET 1 OF 4.

Published and distributed by: 21 JUN 1962
National Standards Association, Inc.
5161 River Road
Bethesda, Md. 20816

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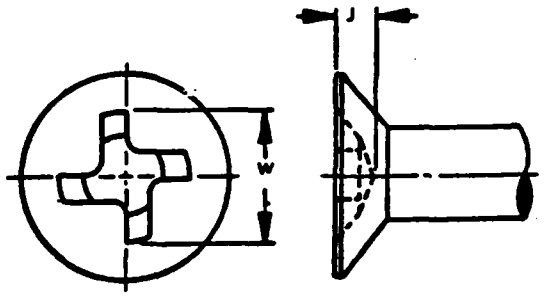
THIS DRAWING SUPERSEDES NAS AEROSPACE STANDARD (ASD) DRAWING FOR THE SAME PRODUCT AND SHALL BECOME EFFECTIVE ON DATE SHOWN FOR THE LAST DATE OF APPROVAL SHOWN HEREON

APPROVAL DATE FEB. 1963 REVISION (1) 1 May 1964 (2) 30 Sept. 1970 (3) 30 Sept. 1971 (4) 30 March 1977 (5) 28 MAY 1982

NATIONAL AEROSPACE STANDARD

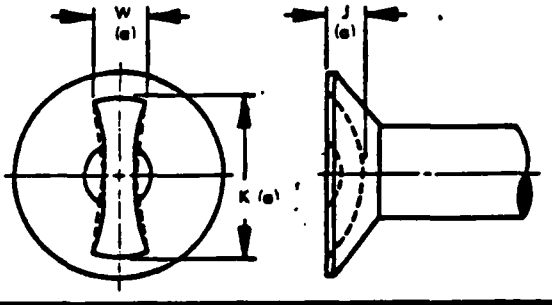
AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W. WASHINGTON, D. C. 20036

"TORQ-SET" (R) RECESS



FIRST DASH NO.	RECESS NO.	J MAX	W DIA MAX	GAGE PENETRATION MIN	GAGE PENETRATION MAX	Recess Torque In. Lbs. Min
-3	10	.090	.248	.0560	.0685	50
-4	1/4	.118	.325	.0750	.0890	125
-5	5/16	.122	.357	.0700	.0860	250
-6	3/8	.145	.427	.0850	.1030	430
-7	7/16	.169	.498	.1005	.1205	925
-8	1/2	.193	.568	.1155	.1375	1210
-9	9/16	.217	.638	.1305	.1545	1760
-10	5/8	.241	.708	.1450	.1710	2460

"HI-TORQUE" (R) RECESS



FIRST DASH NO.	RECESS NO.	J MIN	J MAX	K REF	W REF	Recess Torque In. Lbs. Min
-3	3	.042	.045	.305	.110	50
-4	4	.051	.054	.422	.134	125
-5	5	.061	.064	.490	.160	250
-6	6	.084	.088	.639	.198	430
-7	7	.096	.100	.715	.224	925
-8	8	.101	.105	.766	.256	1210
-9	9	.114	.118	.877	.300	1760
-10	10	.137	.141	1.020	.344	2460

MATERIAL: ALLOY STEEL, AND 6AL-4V TITANIUM ALLOY PER PROCUREMENT SPEC OR A-286 CRES PER AMS 5731, AMS 5725 OR AMS 5737 (SEE "CODE").

HEAT TREAT:
ALLOY STEEL: 160,000 - 180,000 PSI MINIMUM TENSILE STRENGTH.
A-286 CRES: 160,000 - 180,000 PSI MINIMUM TENSILE STRENGTH.
6AL-4V TI: 160,000 - 180,000 PSI MINIMUM TENSILE STRENGTH.

FINISH: PASSIVATE PER QQ-P-35 OR CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2, ~~OR TYPE II, CLASS 3~~ (SEE "CODE")

CODE: FIRST DASH NUMBER INDICATES NOMINAL DIAMETER IN 16THS. SECOND DASH NUMBER INDICATES GRIP LENGTH IN .0625 INCH INCREMENTS ~~CONVERTED TO THREE DECIMAL PLACES PER ANSI Y14.5; INTERMEDIATE AND LONGER GRIP LENGTHS THAN THOSE LISTED ON PAGE 3 MAY BE ORDERED BY USE OF SIGNIFICANT DASH NUMBERS.~~

MATERIAL:
CODE LETTER "A" FOLLOWING BASIC PART NUMBER INDICATES ALLOY STEEL.
CODE LETTER "C" FOLLOWING BASIC PART NUMBER INDICATES A-286 CRES.
CODE LETTER "V" FOLLOWING BASIC PART NUMBER INDICATES 6AL-4V TITANIUM.

FINISH: (3)
ALLOY STEEL: ~~NO CODE LETTER FOLLOWING SECOND DASH NUMBER INDICATES~~ TYPE II, CLASS 2, CADMIUM PLATE.
~~CODE LETTER "A" FOLLOWING SECOND DASH NUMBER INDICATES TYPE II, CLASS 3, CADMIUM PLATE.~~
A-286 CRES: NO CODE LETTER FOLLOWING SECOND NUMBER INDICATES PASSIVATE.
CODE LETTER "P" FOLLOWING SECOND DASH NUMBER INDICATES TYPE II, CLASS 2, CADMIUM PLATE.
6AL-4V TI: ~~NO CODE LETTER FOLLOWING SECOND DASH NUMBER INDICATES~~ NO FINISH.

RECESS: (5) CODE LETTER "H" FOLLOWING FIRST DASH NUMBER INDICATES HI-TORQUE (R) RECESS PER MS33750
CODE LETTER "R" FOLLOWING FIRST DASH NUMBER INDICATES TORQ-SET (R) RECESS PER MS14191 FOR SIZES 3, 4 AND 5.
CODE LETTER "T" FOLLOWING FIRST DASH NUMBER INDICATES TORQ-SET (R) RECESS PER MS33781

DRILL: CODE LETTER "D" FOLLOWING SECOND DASH NUMBER INDICATES DRILLED THREADS.

OVERSIZE: CODE LETTERS "X" OR "Y" FOLLOWING SECOND DASH NUMBER INDICATE REPLACEMENT BOLT.

WHEN MORE THAN ONE CODE LETTER IS USED FOLLOWING SECOND DASH NUMBER, ARRANGE LETTERS ALPHABETICALLY.

EXAMPLE OF PART NUMBER: (5)
NAS1580C4H5 .2500-28 A-286 CRES BOLT; .312 GRIP LENGTH; PASSIVATED; HI-TORQUE (R) RECESS PER MS33750.
NAS1580C4T5P .2500-28 A-286 CRES BOLT; .312 GRIP LENGTH; TYPE II, CLASS 2, CADMIUM PLATE; TORQ-SET (R) RECESS PER MS33781.
NAS1580V4R5D .2500-28 TITANIUM BOLT; .312 GRIP LENGTH, TORQ-SET (R) RECESS PER MS14191, DRILLED THREADS.

NOTES:
1. CONCENTRICITY: CONICAL SURFACE OF HEAD TO "D" DIA WITHIN .003 TIR. "D" DIA TO THREAD PITCH DIA WITHIN .0045 TIR FOR NAS1580-3 THRU NAS1580-5, AND WITHIN .006 TIR FOR NAS1580-6 AND LARGER.
2. SURFACE TEXTURE PER ANSI B46.1. CONICAL SURFACE OF HEAD, HEAD TO SHANK FILLET RADIUS, SHANK AND ALL THREAD ELEMENTS 32 RHR MAX. ALL OTHER SURFACES 125 RHR MAX.
3. ALLOY STEEL PARTS WITH TYPE II, CLASS 3, CADMIUM PLATE MAY BE FURNISHED FROM SUPPLIER'S STOCK UNTIL 1 JULY 1978.
4. BREAK ALL SHARP EDGES AND REMOVE ALL BURRS.
5. DIMENSIONS IN INCHES AND TO BE MET AFTER PLATING (WHEN REQUIRED), ~~EXCEPT AS SHOWN ON SHEET 4.~~
(5) 6. MS14191 RECESS IS APPLICABLE TO SIZES 3, 4 AND 5; MS33781 AND MS33750 RECESSES ARE APPLICABLE TO ALL SIZES.

PROCUREMENT SPECIFICATION:
ALLOY STEEL: NAS498 EXCEPT TENSILE VALUES AS TABULATED.
A-286 CRES: AMS7479 EXCEPT TENSILE VALUES AS TABULATED, AND STRESS RUPTURE NOT APPLICABLE.
6AL-4V TI: NAS621

NAS 1580
Sheet 2 OF 4.

ARMOR DATE FEB. 1963 REVISION (1) 1 May 1964 (2) 30 Sept. 1970 (3) 30 Sept. 1971 (4) 30 March 1977 (5) 28 MAY 1982

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21 JUN 1982

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GRIP DASH NO.	GRIP ±.010	LENGTH ±.015								GRIP ±.010	GRIP DASH NO.
		NAS1580-3	NAS1580-4	NAS1580-5	NAS1580-6	NAS1580-7	NAS1580-8	NAS1580-9	NAS1580-10		
2	0.125	0.487	0.528							0.125	2
3	0.187	0.549	0.590							0.187	3
4	0.250	0.613	0.653	0.751	0.844	0.925	1.018			0.250	4
5	0.312	0.675	0.715	0.813	0.906	0.987	1.080			0.312	5
6	0.375	0.738	0.778	0.876	0.969	1.050	1.143	1.256	1.356	0.375	6
7	0.438	0.801	0.841	0.939	1.032	1.113	1.206	1.319	1.419	0.438	7
8	0.500	0.863	0.903	1.001	1.094	1.175	1.268	1.381	1.481	0.500	8
9	0.562	0.925	0.965	1.063	1.156	1.237	1.330	1.443	1.543	0.562	9
10	0.625	0.988	1.028	1.126	1.219	1.300	1.393	1.506	1.606	0.625	10
11	0.688	1.051	1.091	1.189	1.282	1.363	1.456	1.569	1.669	0.688	11
12	0.750	1.113	1.153	1.251	1.344	1.425	1.518	1.631	1.731	0.750	12
13	0.812	1.175	1.215	1.313	1.406	1.487	1.580	1.693	1.793	0.812	13
14	0.875	1.238	1.278	1.376	1.496	1.550	1.643	1.756	1.856	0.875	14
15	0.938	1.301	1.341	1.439	1.532	1.613	1.706	1.819	1.919	0.938	15
16	1.000	1.363	1.403	1.501	1.594	1.675	1.768	1.881	1.981	1.000	16
17	1.062	1.425	1.465	1.563	1.656	1.737	1.830	1.943	2.043	1.062	17
18	1.125	1.488	1.528	1.626	1.719	1.800	1.893	2.006	2.106	1.125	18
19	1.188	1.551	1.591	1.689	1.782	1.863	1.956	2.069	2.169	1.188	19
20	1.250	1.613	1.653	1.751	1.844	1.925	2.018	2.131	2.231	1.250	20
21	1.312	1.675	1.715	1.813	1.906	1.987	2.080	2.193	2.293	1.312	21
22	1.375	1.738	1.778	1.876	1.969	2.050	2.143	2.256	2.356	1.375	22
23	1.438	1.801	1.841	1.939	2.032	2.113	2.206	2.319	2.419	1.438	23
24	1.500	1.863	1.903	2.001	2.094	2.175	2.268	2.381	2.481	1.500	24
25	1.562	1.925	1.965	2.063	2.156	2.237	2.330	2.443	2.543	1.562	25
26	1.625	1.988	2.028	2.126	2.219	2.300	2.393	2.506	2.606	1.625	26
27	1.688	2.051	2.091	2.189	2.282	2.363	2.456	2.569	2.669	1.688	27
28	1.750	2.113	2.153	2.251	2.344	2.425	2.518	2.631	2.731	1.750	28
29	1.812	2.175	2.215	2.313	2.406	2.487	2.580	2.693	2.793	1.812	29
30	1.875	2.238	2.278	2.376	2.469	2.550	2.643	2.756	2.856	1.875	30
31	1.938	2.301	2.341	2.439	2.532	2.613	2.706	2.819	2.919	1.938	31
32	2.000	2.363	2.403	2.501	2.594	2.675	2.768	2.881	2.981	2.000	32
34	2.125	2.488	2.528	2.626	2.719	2.800	2.893	3.006	3.106	2.125	34
36	2.250	2.613	2.653	2.751	2.844	2.925	3.018	3.131	3.231	2.250	36
38	2.375	2.738	2.778	2.876	2.969	3.050	3.143	3.256	3.356	2.375	38
40	2.500	2.863	2.903	3.001	3.094	3.175	3.268	3.381	3.481	2.500	40
42	2.625	2.988	3.028	3.126	3.219	3.300	3.393	3.506	3.606	2.625	42
44	2.750	3.113	3.153	3.251	3.344	3.425	3.518	3.631	3.731	2.750	44
46	2.875	3.238	3.278	3.376	3.469	3.550	3.643	3.756	3.856	2.875	46
48	3.000	3.363	3.403	3.501	3.594	3.675	3.768	3.881	3.981	3.000	48
50	3.125	3.488	3.528	3.626	3.719	3.800	3.893	4.006	4.106	3.125	50
52	3.250	3.613	3.653	3.751	3.844	3.925	4.018	4.131	4.231	3.250	52
54	3.375	3.738	3.778	3.876	3.969	4.050	4.143	4.256	4.356	3.375	54
56	3.500	3.863	3.903	4.001	4.094	4.175	4.268	4.381	4.481	3.500	56
58	3.625	3.988	4.028	4.126	4.219	4.300	4.393	4.506	4.606	3.625	58
60	3.750	4.113	4.153	4.251	4.344	4.425	4.518	4.631	4.731	3.750	60
62	3.875	4.238	4.278	4.376	4.469	4.550	4.643	4.756	4.856	3.875	62
64	4.000	4.363	4.403	4.501	4.594	4.675	4.768	4.881	4.981	4.000	64
66	4.125	4.488	4.528	4.626	4.719	4.800	4.893	5.006	5.106	4.125	66
68	4.250	4.613	4.653	4.751	4.844	4.925	5.018	5.131	5.231	4.250	68
70	4.375	4.738	4.778	4.876	4.969	5.050	5.143	5.256	5.356	4.375	70
72	4.500	4.863	4.903	5.001	5.094	5.175	5.268	5.381	5.481	4.500	72
74	4.625	4.988	5.028	5.126	5.219	5.300	5.393	5.506	5.606	4.625	74
76	4.750	5.113	5.153	5.251	5.344	5.425	5.518	5.631	5.731	4.750	76
78	4.875	5.238	5.278	5.376	5.469	5.550	5.643	5.756	5.856	4.875	78
80	5.000	5.363	5.403	5.501	5.594	5.675	5.768	5.881	5.981	5.000	80
82	5.125	5.488	5.528	5.626	5.719	5.800	5.893	6.006	6.106	5.125	82
84	5.250	5.613	5.653	5.751	5.844	5.925	6.018	6.131	6.231	5.250	84
86	5.375	5.738	5.778	5.876	5.969	6.050	6.143	6.256	6.356	5.375	86
88	5.500	5.863	5.903	6.001	6.094	6.175	6.268	6.381	6.481	5.500	88
90	5.625	5.988	6.028	6.126	6.219	6.300	6.393	6.506	6.606	5.625	90
92	5.750	6.113	6.153	6.251	6.344	6.425	6.518	6.631	6.731	5.750	92
94	5.875	6.238	6.278	6.376	6.469	6.550	6.643	6.756	6.856	5.875	94
96	6.000	6.363	6.403	6.501	6.594	6.675	6.768	6.881	6.981	6.000	96

SEE CODE ON SHEET 2 FOR ADDITIONAL LENGTHS.

NOTE: GRIP EQUALS GRIP DASH NUMBER TIMES .0625 (CONVERTED TO 3 DECIMAL PLACES PER ANSI Y14.5). LENGTH EQUALS GRIP PLUS "T" (SEE SHEET 1).

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APPROVAL DATE FEB. 1963 REVISION ① 1 May 1964 ② 30 Sept. 1970 ③ 30 Sept. 1971 ④ 30 March 1977 ⑤ 28 MAY 1982

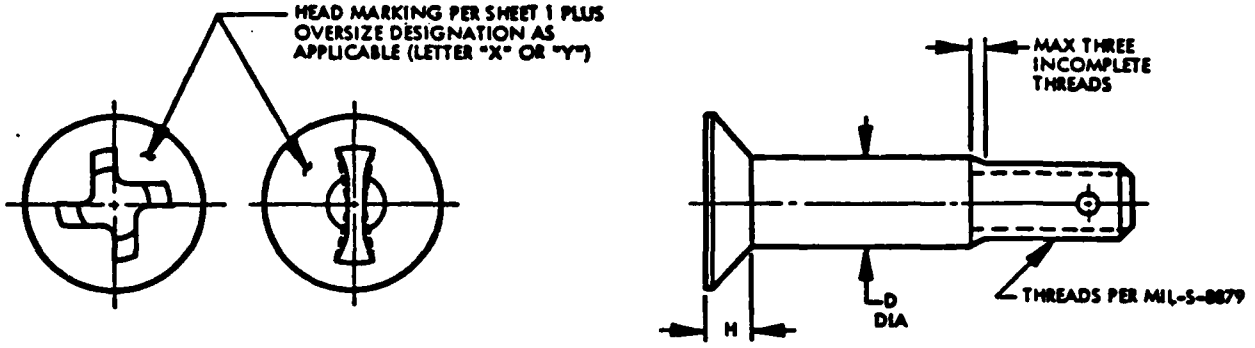
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.0156 AND .0312 OVERSIZE SHANK FOR REPLACEMENT OF BOLTS SHOWN ON SHEET 1



.0156 OVERSIZE

PART NUMBER		D DIA		H REF (b)		PART NUMBER		D DIA		H REF (b)	
		Unplated	Plated					Unplated	Plated		
NAS1580 -3( )X		.2051 .2046	.2051 .2041	.073		NAS1580 -3( )Y		.2207 .2202	.2207 .2197	.067	
NAS1580 -4( )X		.2651 .2646	.2651 .2641	.099		NAS1580 -4( )Y		.2807 .2802	.2807 .2797	.095	
NAS1580 -5( )X		.3276 .3271	.3276 .3266	.126		NAS1580 -5( )Y		.3432 .3427	.3432 .3422	.120	
NAS1580 -6( )X		.3901 .3896	.3901 .3891	.153		NAS1580 -6( )Y		.4057 .4052	.4057 .4047	.147	
NAS1580 -7( )X		.4526 .4521	.4526 .4516	.181		NAS1580 -7( )Y		.4682 .4677	.4682 .4672	.175	
NAS1580 -8( )X		.5151 .5146	.5151 .5141	.208		NAS1580 -8( )Y		.5307 .5302	.5307 .5297	.202	
NAS1580 -9( )X		.5771 .5766	.5771 .5761	.235		NAS1580 -9( )Y		.5927 .5922	.5927 .5917	.229	
NAS1580 -10( )X		.6396 .6391	.6396 .6386	.268		NAS1580 -10( )Y		.6552 .6547	.6552 .6542	.257	

.0312 OVERSIZE

1. FOR MATERIAL, FINISH, PROCUREMENT INFORMATION AND DIMENSIONS NOT SHOWN, SEE SHEETS 1 AND 2.
2. MINIMUM TENSILE LOADS FOR "X" AND "Y" CODED PARTS ARE 85 PERCENT OF STANDARD LOADS TABULATED ON SHEET 1.

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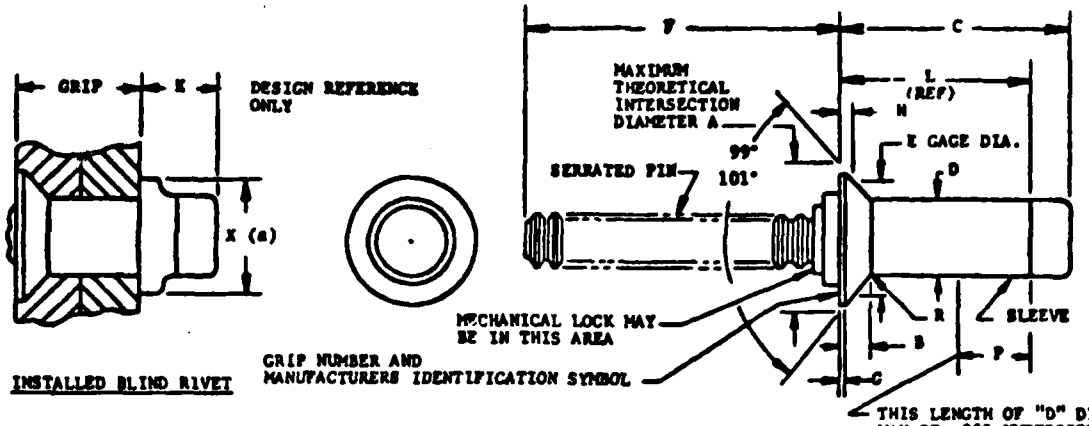
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APPROVED March 1977 REVISION

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FED. SUP CLAS
5320



DASH NO. (c)	(b)	NOM. SIZE	A DIA.	B MAX.	D DIA.	E GAGE DIA.	F MIN.	G MAX.	H GAGE	K MAX.	P MAX.	R RAD MAX.	X (a) MIN.	INSTALLED RIVET MINIMUM SINGLE SHEAR LBS.	INSTALLED RIVET MINIMUM TENSILE LBS.	HOLE LIMITS
-05	805	5/32	.333	.072	.164 .162	.2832 .2830	.844	.011	.0206 .0171	.202	.215	.010	.195	2340	1350	.164 .167
-06	806	3/16	.386	.080	.199 .197	.3272 .3270	.875	.013	.0243 .0205	.231	.250	.018	.238	3450	2100	.199 .202
-08		1/4	.507	.105	.260 .258	.4320 .4318	1.000	.017	.0310 .0270	.279	.305	.020	.315	5900	3650	.260 .263
-10		5/16	.634	.137	.312 .310	.5451 .5449	1.218	.020	.0367 .0325	.319	.350	.025	.373	8500	5200	.312 .315
-12		3/8	.762	.165	.374 .372	.6582 .6580	1.562	.023	.0428 .0380	.364	.405	.030	.448	12200	7500	.374 .377
-14		7/16	.890	.193	.437 .435	.7786 .7782	1.562	.025	.0460 .0403	.419	.460	.032	.522	16700	10150	.437 .441
-16		1/2	1.017	.220	.499 .496	.8902 .8900	1.562	.026	.0522 .0456	.540	.598	.035	.598	21800	13500	.500 .504

(a) MAXIMUM DIAMETER OF BLIND HEAD (X) SHALL NOT EXCEED MAXIMUM DIAMETER OF MANUFACTURED HEAD (A).

(J) (b) FOR SIZES "05" AND "06", INSERT "S" IN PLACE OF (-) TO DESIGNATE RIVET INSTALLED WITH SINGLE ACTION TOOL. THESE RIVETS ARE COLOR IDENTIFIED GREEN ON END OF PINTAIL, OR ON MECHANICAL LOCK (MFR'S OPTION).

(J) (c) SIZES "05" AND "06" WITH (-) ARE INSTALLED WITH A DOUBLE ACTION TOOL. ALL OTHER SIZES WITH (-) ARE INSTALLED WITH A SINGLE ACTION TOOL.

SEE NOTES ON SHEET 4

(J) DENOTES CHANGE

APPROVED 11 DEC 1964 REVISED (B) 19 JAN 1976 (J) 29 APR 1976

P.A.	TITLE	MILITARY STANDARD
NAVY - AS Other Cust USAF - 82 ARMY - AV	RIVET, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL, 112 K.S.I. Fsu	MS90353
PROCUREMENT SPECIFICATION MIL-F-81177	SUPERSEDES	SHEET 1 OF 4

DD FORM 672-1 (Coordinated)
15 DEC 1976

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PROJECT NO. 5320-0316

FED. SUP CLASS 5320

APPROVED 11 DEC 1964 — FOR CHANGES SEE SHEET 3

DASH NO.	GRIP RANGE MIN.	GRIP RANGE MAX.	5/32 DIA. C MAX.	5/32 DIA. L REF.	3/16 DIA. C MAX.	3/16 DIA. L REF.	1/4 DIA. C MAX.	1/4 DIA. L REF.	DASH NO.	GRIP RANGE MIN.	GRIP RANGE MAX.	5/16 DIA. C MAX.	5/16 DIA. L REF.
-0502	.094	.157	.406	.280	.475	.329	.586	.406	-0603	.156	.220	.713	.506
-0503	.156	.220	.466	.342	.511	.365	.648	.469	-0604	.219	.282	.775	.568
-0504	.219	.282	.529	.405	.574	.428	.710	.531	-0605	.281	.345	.838	.631
-0505	.281	.345	.592	.467	.636	.490	.773	.594	-0606	.344	.407	.900	.693
-0506	.344	.407	.654	.530	.699	.553	.836	.656	-0607	.406	.470	.963	.756
-0507	.406	.470	.716	.592	.761	.615	.898	.719	-0608	.469	.532		
-0508	.469	.532	.779	.655	.824	.678							
-0509	.531	.595	.842	.717	.886	.740	.960	.781	-0609	.531	.595	1.025	.818
-0510	.594	.657	.904	.780	.949	.803	1.023	.844	-0610	.594	.657	1.088	.881
-0511	.656	.720	.966	.842	1.011	.865	1.086	.906	-0611	.656	.720	1.150	.943
-0512	.719	.782	1.029	.905	1.074	.928	1.148	.969	-0612	.719	.782	1.213	1.006
-0513	.781	.845	1.092	.967	1.136	.990	1.210	1.031	-0613	.781	.845	1.275	1.068
-0514	.844	.907	1.154	1.030	1.199	1.053	1.273	1.094	-0614	.844	.907	1.338	1.131
-0515	.906	.970	1.216	1.092	1.261	1.115	1.336	1.156	-0615	.906	.970	1.400	1.193
-0516	.969	1.032	1.279	1.155	1.324	1.178	1.398	1.219	-0616	.969	1.032	1.463	1.256
									-0617	1.031	1.095	1.525	1.318
									-0618	1.094	1.157	1.588	1.381
									-0619	1.156	1.220	1.650	1.443
									-0620	1.219	1.282	1.713	1.506
									-0621	1.281	1.345	1.775	1.568
									-0622	1.344	1.407	1.838	1.631
									-0623	1.406	1.470	1.900	1.693
									-0624	1.469	1.532	1.963	1.756
									-0625	1.531	1.595	2.025	1.818
									-0626	1.594	1.657	2.088	1.881
									-0627	1.656	1.720	2.150	1.943
									-0628	1.719	1.782	2.213	2.006
									-0629	1.781	1.845	2.275	2.068
									-0630	1.844	1.907	2.338	2.131
									-0631	1.906	1.970	2.400	2.193
									-0632	1.969	2.032	2.463	2.256

GRIP RANGE TABULATION

REVISION SYMBOLS

USAF = 11°
NAVY = 11°

"Symbol/Asset information is correct as of the date of this document. For future coordination of changes to this document, draft revisions should be based on the information in the current revision."

This military standard is approved for use by all Departments & Agencies of the Department of Defense. Suggestions for improvements and design applications and for reporting any deviations should be made from this document.

P.A. NAVY - AS Other Cust USAF = 82 ARMY = AV	TITLE: RIVET, BLIND, HIGH STRENGTH, FULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL, 112 K.S.I. Fsu	MILITARY STANDARD MS90353
PROCUREMENT SPECIFICATION MIL-F-81177	SUPERSEDES:	SHEET 2 OF 4

DD FORM 1 MAR 72 672-1 (Coordinated) — PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE. — PLATE NO. 88888

FED. SUP CLASS 5320

GRIP RANGE TABULATION

DASH NO.	GRIP MIN.	GRIP MAX.	3/8 DIA. C MAX.	3/8 DIA. L REF.	DASH NO.	GRIP MIN.	GRIP MAX.	7/16 DIA. C MAX.	7/16 DIA. L REF.	DASH NO.	GRIP MIN.	GRIP MAX.	1/2 DIA. C MAX.	1/2 DIA. L REF.
-1204	.219	.282	.790	.548	-1405	.281	.345	.934	.662	-1606	.344	.407	1.117	.815
-1205	.281	.345	.853	.610	-1406	.344	.407	.996	.724	-1607	.406	.470	1.179	.878
-1206	.344	.407	.915	.673	-1407	.406	.470	1.059	.787	-1608	.469	.532	1.242	.940
-1207	.406	.470	.977	.735	-1408	.469	.532	1.121	.849					
-1208	.469	.532	1.040	.798										
-1209	.531	.595	1.103	.860	-1409	.531	.595	1.184	.912	-1609	.531	.595	1.304	1.003
-1210	.594	.657	1.165	.923	-1410	.594	.657	1.246	.974	-1610	.594	.657	1.367	1.065
-1211	.656	.720	1.227	.985	-1411	.656	.720	1.309	1.037	-1611	.656	.720	1.429	1.128
-1212	.719	.782	1.290	1.048	-1412	.719	.782	1.371	1.099	-1612	.719	.782	1.492	1.190
-1213	.781	.845	1.353	1.110	-1413	.781	.845	1.434	1.162	-1613	.781	.845	1.554	1.253
-1214	.844	.907	1.415	1.173	-1414	.844	.907	1.496	1.224	-1614	.844	.907	1.617	1.315
-1215	.906	.970	1.477	1.235	-1415	.906	.970	1.559	1.287	-1615	.906	.970	1.679	1.378
-1216	.969	1.032	1.540	1.298	-1416	.969	1.032	1.621	1.349	-1616	.969	1.032	1.742	1.440
-1217	1.031	1.095	1.603	1.360	-1417	1.031	1.095	1.684	1.412	-1617	1.031	1.095	1.804	1.503
-1218	1.094	1.157	1.665	1.423	-1418	1.094	1.157	1.746	1.474	-1618	1.094	1.157	1.867	1.565
-1219	1.156	1.220	1.727	1.485	-1419	1.156	1.220	1.809	1.537	-1619	1.156	1.220	1.929	1.628
-1220	1.219	1.282	1.790	1.548	-1420	1.219	1.282	1.871	1.599	-1620	1.219	1.282	1.992	1.690
-1221	1.281	1.345	1.853	1.610	-1421	1.281	1.345	1.934	1.662	-1621	1.281	1.345	2.054	1.753
-1222	1.344	1.407	1.915	1.673	-1422	1.344	1.407	1.996	1.724	-1622	1.344	1.407	2.117	1.815
-1223	1.406	1.470	1.977	1.735	-1423	1.406	1.470	2.059	1.787	-1623	1.406	1.470	2.179	1.878
-1224	1.469	1.532	2.040	1.798	-1424	1.469	1.532	2.121	1.849	-1624	1.469	1.532	2.242	1.940
-1225	1.531	1.595	2.103	1.860	-1425	1.531	1.595	2.184	1.912	-1625	1.531	1.595	2.304	2.003
-1226	1.594	1.657	2.165	1.923	-1426	1.594	1.657	2.246	1.974	-1626	1.594	1.657	2.367	2.065
-1227	1.656	1.720	2.227	1.985	-1427	1.656	1.720	2.309	2.037	-1627	1.656	1.720	2.429	2.128
-1228	1.719	1.782	2.290	2.048	-1428	1.719	1.782	2.371	2.099	-1628	1.719	1.782	2.492	2.190
-1229	1.781	1.845	2.353	2.110	-1429	1.781	1.845	2.434	2.162	-1629	1.781	1.845	2.554	2.253
-1230	1.844	1.907	2.415	2.173	-1430	1.844	1.907	2.496	2.224	-1630	1.844	1.907	2.617	2.315
-1231	1.906	1.970	2.477	2.235	-1431	1.906	1.970	2.559	2.287	-1631	1.906	1.970	2.679	2.378
-1232	1.969	2.032	2.540	2.298	-1432	1.969	2.032	2.621	2.349	-1632	1.969	2.032	2.742	2.440
-1233	2.031	2.095	2.603	2.360										
-1234	2.094	2.157	2.665	2.423	-1433	2.031	2.095	2.684	2.412	-1633	2.031	2.095	2.804	2.503
-1235	2.156	2.220	2.727	2.485	-1434	2.094	2.157	2.746	2.474	-1634	2.094	2.157	2.867	2.565
-1236	2.219	2.282	2.790	2.548	-1435	2.156	2.220	2.809	2.537	-1635	2.156	2.220	2.929	2.628
					-1436	2.219	2.282	2.871	2.599	-1636	2.219	2.282	2.992	2.690
										-1637	2.281	2.345	3.054	2.753
										-1638	2.344	2.407	3.117	2.815
										-1639	2.406	2.470	3.179	2.878
										-1640	2.469	2.532	3.242	2.940

APPROVED 11-DEC 1964 (2) FOR CHANGES SEE SHEETS 1, 2, 3 & 4

NAVY - AS
Other Cont
USAF - 82
ARMY - AV

TITLE: RIVET, BLIND, HIGH STRENGTH, FULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL. 112 K.S.I. Fsu

MILITARY STANDARD

MS90353

PROCUREMENT SPECIFICATION: MIL-F-81177

SUPERSEDES:

SHEET 3 OF 4

DD FORM 672-1 (Coordinated)

15 DEC 1976

FED SUP CLASS
5320

NOTES:

1. MATERIAL

SLEEVE:	ALLOY STEEL - AISI 4027 OR 4037 PER QQ-W-405 OR AISI 4130 PER MIL-S-6758 AND QQ-W-405.
SERRATED PIN:	ALLOY STEEL - AISI 8740 PER MIL-S-6049 AND QQ-W-405.
MECHANICAL LOCK:	CARBON STEEL OR ALLOY STEEL CONFORMING TO THE CHEMICAL COMPOSITION OF 1010, 1020, 1144, 4037, OR 4130 OF FEDERAL STANDARD 66 OR A286 CRES, CONFORMING TO THE CHEMICAL LIMITS OF AMS5737.

2. HARDNESS

(J) SLEEVE:	KNOOP (1000 GRAM LOAD) 326-466.
SERRATED PIN:	ROCKWELL "C" 48 TO 53.
MECHANICAL LOCK:	NOT APPLICABLE

3. PROTECTIVE TREATMENT

SLEEVE:	CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.
SERRATED PIN:	CADMIUM PLATE PER QQ-P-416, TYPE I, CLASS 3 WITH HYDROGEN EMBRITTLEMENT RELIEF PER MIL-F-81177.
(J) MECHANICAL LOCK:	CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2. (CARBON AND ALLOY STEEL) A286 CRES PASSIVATE PER QQ-P-35.

4. INSPECTION: DUE TO INSTALLATION LOADS BEING HIGHER THAN PERFORMANCE LOAD REQUIREMENTS, MAGNETIC PARTICLE INSPECTION IS NOT REQUIRED.

PART NUMBER CONSISTS OF MS NUMBER PLUS THE DASH NUMBERS.

MS90353-0803 = RIVET: BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL, 112 K.S.I. Fsu

- 03 GRIP NUMBER
- 08 DIAMETER DASH NUMBER
- MS NUMBER

5. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED TOLERANCES: DECIMALS: ±.010.

6. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BIDS, OR REQUEST FOR PROPOSAL EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.

7. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.

(J) FOR CHANGES SEE SHEET 4

APPROVED 13 DEC 1964

REVISIONS SYMBOLS: USAF - 11, DSA - 15

Specific data information is correct as of the date of this document. For future coordination of changes to this document, draft amendments should be based on the information in the current DoDISS.

This military standard is approved for use by all Departments & Agencies of the Department of Defense. Distribution for all new engineering and design applications and for repetitive use shall be made from this document.

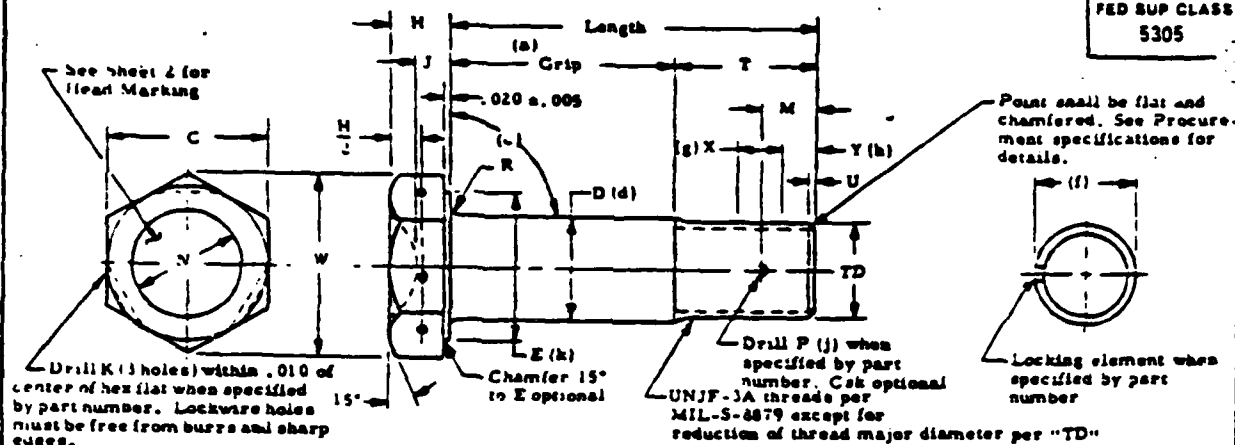
P.A. NAVY - AS, Other Cust: USAF - 82, ARMY - AV	TITLE: RIVET, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL. 112 K.S.I. Fsu	MILITARY STANDARD MS90353
PROCUREMENT SPECIFICATION: MIL-P-81177	SUPERSEDES:	SHEET 4 OF 4

DD FORM 672-1 (Reordered) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE. PLATE NO. 1 (DSA)

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 De Sales Street, N. W., Washington D. C. 20036

FED SUP CLASS 5305



BASIC NUMBER	Nom Thread Size	C	D Dia Before Chrome Plate	D Dia Before Cad Plate	D Dia After Plate	E Dia Min	H	J	K Dia	M	N	P	R Rad	T (Ref) (b)	TD Dia	U Max
NAS6203	.1900-32	.376 .367	.1850	.1887	.1895 .1865	.335	.125 .110	.088 .073	.056 .046	.174 .154	.18 .20	.080 .070	.020 .010	.322	.1840 .1810	.039
NAS6204	.2500-28	.439 .429	.2450 .2445	.2487 .2481	.2495 .2485	.398	.140 .125	.098 .083	.058 .046	.180 .160	.24 .26	.086 .076		.370	.2440 .2410	.045
NAS6205	.3125-24	.502 .492	.3075 .3070	.3112 .3106	.3120 .3110	.460	.171 .156	.119 .104		.192 .172	.30 .32			.438	.3060 .3030	.052
NAS6206	.3750-24	.564 .554	.3700 .3695	.3737 .3731	.3745 .3735	.523	.203 .188	.140 .125		.193 .173	.37 .39		.025 .015	.454	.3680 .3640	
NAS6207	.4375-20	.690 .678	.4325 .4320	.4362 .4356	.4370 .4360	.648	.234 .219	.161 .146		.209 .189	.43 .45	.116 .106		.528	.4310 .4260	.062
NAS6208	.5000-20	.752 .741	.4950 .4945	.4987 .4981	.4995 .4985	.710	.265 .250	.182 .167		.208 .188	.49 .51		.030 .020	.528	.4930 .4880	
NAS6209	.5625-18	.877 .865	.5570 .5565	.5607 .5601	.5615 .5605	.835	.296 .281	.203 .188		.217 .197	.55 .57		.035 .020	.594	.5550 .5500	.066
NAS6210	.6250-18	.940 .928	.6195 .6190	.6232 .6226	.6240 .6230	.898	.327 .312	.225 .208	.080 .070	.217 .197	.61 .63		.040 .025	.628	.6180 .6120	
NAS6212	.7500-16	1.065 1.052	.7445 .7440	.7482 .7476	.7490 .7480	1.023	.390 .375	.285 .250		.232 .212	.74 .76		.045 .030	.666	.7430 .7370	.078
NAS6214	.8750-14	1.252 1.239	.8695 .8690	.8732 .8726	.8740 .8730	1.210	.453 .438	.307 .292		.251 .231	.87 .89	.151 .141	.050 .035	.759	.8620 .8610	.089
NAS6216	1.0000-12	1.440 1.427	.9945 .9940	.9982 .9976	.9990 .9980	1.398	.515 .500	.348 .333		.274 .254	.99 1.01		.060 .045	.895	.9930 .9860	
NAS6218	1.1250-12	1.627 1.614	1.1195 1.1185	1.1232 1.1221	1.1240 1.1225	1.585	.577 .562	.390 .375		.305 .285	1.11 1.13		.070 .055	.989	1.1160 1.1110	.104
NAS6220	1.2500-12	1.814 1.801	1.2445 1.2435	1.2482 1.2471	1.2490 1.2475	1.772	.640 .625	.432 .417		.305 .285	1.24 1.26		.075 .060	1.083	1.2430 1.2360	

BASIC NUMBER	W Min	X (g)	Y (h)	AA	(e) BB	(d) CC
NAS6203	.410	.156	.094	.0045	.0040	.005
NAS6204	.480	.179	.107		.0030	.008
NAS6205	.572	.208	.125			.008
NAS6206	.643				.0025	.009
NAS6208	.794	.250	.150	.0060		.010
NAS6208	.838					.011
NAS6209	.978	.278	.167			.012
NAS6210	1.050					.015
NAS6212	1.191	.312	.188		.0020	.018
NAS6214	1.405	.457	.214	.0090		.020
NAS6216	1.618					.022
NAS6218	1.832	.417	.250			.025
NAS6220	2.048					.028

(a), (b) etc: See notes on Sheet 2

LIST OF CURRENT SHEETS

NO.	REV
1	4
2	3
3	NEW
4	2
5	2

CUSTODIAN: National Aerospace Standards Committee

PROCUREMENT SPECIFICATION	TITLE	CLASSIFICATION
Noted on Sheet 2	BOLT, HEX HEAD, CLOSE TOLERANCE, ALLOY ④ STEEL, SELF-LOCKING & NONLOCKING	STANDARD PART NAS6203 thru 6220 Sheet 1 of 5

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Washington, D.C. 20016
30 JUN 1961

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This drawing supersedes all antecedent standard drawings for the same product and shall become effective no later than six months from the last date of approval shown hereon

Ⓐ 7 November 1960 Ⓒ Ⓒ Ⓒ

AIA and its committees will not investigate the applicability of patents to the subject matter of NAS Standards and is respect thereof do not assume any liability to patent owners or to prospective users

This drawing supersedes all antecedent standard drawings for the same product and shall become effective no later than six months from the last date of approval shown hereon

MATERIAL: Alloy steel per procurement specification. Locking element - Plastic per MIL-F-18240 and QPL18240.

HEAT TREAT: 160 to 180 KSI ultimate tensile, 95 KSI minimum ultimate shear.

FINISH: Cadmium Plated Bolts - Cadmium plate per QQ-P-416, Type II, Class 2. Parts plated to Class 3 may be used until stock depleted. Embrittlement requirement per NAS4002.

③ Chromium Plated Bolts - Chromium plate per QQ-C-320, Class 2 on shank only. All other surfaced Cadmium plated. No Chromium within .020 of line of tangency of head to shank fillet. Chromium in thread runout permitted. Chromium plated bolts not available with grip dash number 1 or number 2.

CODE: Dash number indicates grip in .0625 increments. See Sheet 3 for tabulation of grip and length dimensions. Add "D" after dash number for drilled shank. Add "H" after dash number for drilled head. Add "L" after basic part number for self-locking bolts, optional configuration. Add "P" after basic part number for self-locking bolts, patch type. Add "C" after basic part number for chromium plated bolts.

EXAMPLE OF PART NUMBER:

NAS6204-10	=	Bolt, .2500 thread, .625 grip, nonlocking, undrilled.
NAS6204-10D	=	Bolt, .2500 thread, .625 grip, nonlocking, drilled shank.
NAS6204-10DH	=	Bolt, .2500 thread, .625 grip, nonlocking, drilled shank and drilled head
NAS6204-10H	=	Bolt, .2500 thread, .625 grip, nonlocking, drilled head.
NAS6204L10	=	Bolt, .2500 thread, .625 grip, self-locking, (optional configuration), undrilled
NAS6204P10	=	Bolt, .2500 thread, .625 grip, self-locking, (patch type), undrilled.

HEAD MARKING: Basic number plus grip dash number plus "D", "L", or "P" when applicable, plus manufacturer's symbol raised or depressed .010 max. Arrangement optional.

"D" identifies bolt with drilled shank
"L" identifies bolt with optional locking element
"P" identifies bolt with patch type locking element only

NOTES:

(a) Grip length of bolts shall be measured from the underside of head to the end of the full cylindrical portion of the shank.

(b) Reference dimensions are for design purposes only, not an inspection requirement.

(c) Bearing surface squareness: Within .003 TIR of shank diameter.

(d) Concentricity: "D" diameter to thread pitch diameter within "AA" values. "D" and "E" diameters within "CC" values ③ TIR.

(e) Shank straightness: Within "BB" values TIR per inch of length.

(f) Protrusion of locking element shall be controlled so that it will pass freely or with finger pressure through a ring gage with diameter of .010 (+.001, -.000) greater than maximum major diameter of screw thread.

(g) "X" minimum (5 thread pitches) = region of minimum engagement of female thread required to meet MIL-F-18240 requirements. Locking element within "X" region must develop required torque when tested per MIL-F-18240.

(h) For ease of starting, locking element shall not be effective in "Y" area (3 thread pitches).

(j) Cotter pin hole centerline: Within .010 and normal within 2° of bolt centerline.

(k) Washer face diameter: Max not to exceed actual width across flats; min as tabulated.

SURFACE TEXTURE: (AA max per ANSI B46.1) "D" diameter, bearing surface of head, thread flanks and thread root 32; other surfaces 125.

Dimensions to be met after plating.

Dimensions in inches.

PROCUREMENT SPECIFICATION: NAS4002, except as noted. Cold work of head to shank fillet is not required for NAS 6203 bolt. Locking element for self-locking bolts: Per MS15981 and MIL-F-18240. Any type or configuration of locking element is optional when "L" code is specified. Patch type locking element (with no metal removed) is required when "P" code is specified. Locking element must be supplied by a qualified source listed in QPL18240 or approved for listing in QPL18240. Shipping notice should identify supplier of bolt and locking element separately.

APP L DATE December 1968 REVISION ① 16 March 1970 ③

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Washington, D.C. 20016
30 JUN 1961

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REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
F	REVISED NOTES III.1, IV & V.4. REVISED HOLE DIA FOR LOCKBOLTS & SHEAR PINS. ADDED V.6, V.7, V.8 & V.9. CA4628 & CR1392	24 FEB 1978	
G	ADDED VIEW TO SHOW LOCKBOLT ACCEPTANCE CRITERIA AT PARA V, ITEM 8 PER CCA 18845	20 NOV 1980	

I. GENERAL NOTES

1. THIS FASTENER INSTALLATION STANDARD IS APPLICABLE TO THE INSTALLATION OF LISTED PINS, BOLTS AND BLIND FASTENERS WHEN REFERENCED ON ENGINEERING DRAWINGS.

2. SEE M219 FOR CORROSION PROTECTION AND SEALING REQUIREMENTS.

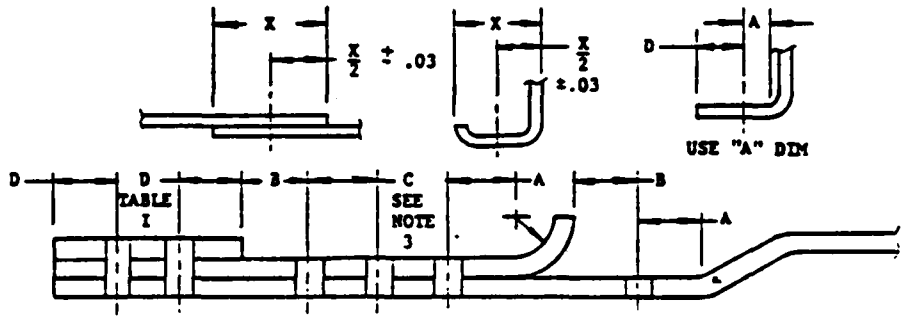


TABLE I

NOMINAL FASTENER DIA	SPACING (SEE NOTE 2) ± .03			
	A	B	C REF	D
5/32	.22	.31	.47	.31
3/16	.25	.37	.56	.37
1/4	.31	.50	.75	.50
5/16	.37	.63	.94	.62
3/8	.44	.75	1.13	.75
1/2	.56	1.00	1.50	1.00

REV STATUS OF SHEETS	REV	G	F	F	G					
	SHEET	1	2	3	4					

	CONTRACT NO. F33657-75-C-0310	GENERAL DYNAMICS Fort Worth Division FORT WORTH, TEXAS
	APPROVED 28 JUL 1975	FASTENER INSTALLATION, PINS, BOLT & BLIND FASTENERS - FLUSH AND PROTRUDING HEADS
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES LINEAR TOL XX ± .03, XXX ± .010 ANGULAR TOL ± 0°30'	CHECK [illegible] 7/15/75	
	DRAFT [illegible]	SIZE A / CODE IDENT NO. 81755 / M198
		SCALE NONE / SHEET 1 OF 4

III. NOTES:

(F) 1. FLAT DEBURR TOOLS SHALL BE USED TO REMOVE PROTRUDING BURRS FROM EXIT SIDE OF DRILLED HOLES. DO NOT USE A CHAMFER OR A RADIUS DEBURRING TOOL. BURRS ARE DEFINED AS ATTACHED OR ADHERENT SLIVERS OR PARTICLES OF THE ORIGINAL MATERIAL OF THE PART.

2. WHEN DESIGN DIMENSIONS ARE OTHER THAN THOSE LISTED, THEY MUST BE SPECIFIED ON THE ENGINEERING DRAWING.

3. THE "C" VALUE APPLIES TO THE SPACING BETWEEN FASTENERS, WHETHER IN A ROW OR BETWEEN ROWS AND SHALL BE SPECIFIED ON THE ENGINEERING DRAWING.

4. UNLESS OTHERWISE SHOWN ON THE ENGINEERING DRAWING, ALL FASTENERS ARE EQUALLY SPACED WITHIN .06 BETWEEN END LOCATED FASTENERS; THE QUANTITY IS AS SHOWN ON THE DRAWING.

(F) IV. FASTENER HOLE SIZES

UNLESS OTHERWISE SPECIFIED ON THE DRAWING, USE TABLE II TO DETERMINE HOLE SIZE AND FOR NOMINAL COUNTERSINK SIZES FOR FLUSH HEAD FASTENERS: IN ALUMINUM STRUCTURE, THE HEAD TO SHANK RELIEF RADII (R) OR CHAMFER FOR PROTRUDING, HEX OR SPLINE HEAD BOLTS IS NOT REQUIRED. THE CHAMFER OR RADII IS REQUIRED IN ALL OTHER MATERIALS.

TABLE II

LOCKBOLTS		SHEAR PINS		BOLTS				BLIND FASTENERS		BLIND RIVETS	
CSK	PROT	CSK	PROT	CSK	PROT	HEX	SPLINE	CSK	PROT	CSK	PROT
NAS1414H THRU NAS1422H	NAS1424H THRU NAS1432H	NAS4452	NAS4450	C7984	NAS1101	NAS673 THRU NAS678	C7521	C7525#	MS21141	NAS1921	NAS1919
				C7985#	NAS1190			MS21140	MS90354		
NAS1436H THRU NAS1442H	NAS1446H THRU NAS1452H			C7986	NAS1171 THRU NAS1178		MS21296	MS90353			
						NAS6203 THRU NAS6220	MS21297				
NAS7024H AND NAS7025H	NAS7034H AND NAS7035H										
				NAS1102 NAS1189 NAS1578		NAS6303 THRU NAS6320					
				NAS1581# NAS1580		NAS6403 THRU NAS6420					

(F) (F) HOLE AND COUNTERSINK SIZE (E) (C)(D)

FASTENER DIA	LOCKBOLTS HOLE DIA MIN	LOCKBOLTS HOLE DIA MAX	LOCKBOLTS CSK DIA NOM	SHEAR PINS HOLE DIA MIN	SHEAR PINS HOLE DIA MAX	SHEAR PINS CSK DIA NOM	BOLTS HOLE DIA MIN	BOLTS HOLE DIA MAX	BOLTS CSK DIA STD HD	BOLTS CSK DIA RDC# HD	BLIND FASTENERS HOLE DIA MIN	BLIND FASTENERS HOLE DIA MAX	BLIND FASTENERS CSK DIA STD HD	BLIND FASTENERS CSK DIA RDC# HD	BLIND RIVETS HOLE DIA FOR SEALANT INSTL 1/ MIN	BLIND RIVETS HOLE DIA FOR SEALANT INSTL 1/ MAX	BLIND RIVETS HOLE DIA FOR DRY INSTL MIN	BLIND RIVETS HOLE DIA FOR DRY INSTL MAX	CSK DIA
1/8	.1250	.1285	.211												.131	.1325	.129	.132	.225
5/32*	.1562	.1600	.256																
5/32	—	—	—	.1635	.1670	.256	.1640	.1680			.164	.167	.328		.162	.1645	.160	.164	.286
3/16	.1895	.1930	.305	.1890	.1925	.305	.1910	.1945	.380	.299	.199	.202	.380	.305	.1935	.1975	.192	.196	.353
1/4	.2500	.2535	.399	.2500	.2535	.399	.2500	.2540	.502	.392	.260	.263	.501	.399	.2580	.2625	.256	.261	.476
5/16	.3125	.3160	.479	.3125	.3160	.492	.3125	.3165	.630	.471	.312	.315	.627						
3/8	.3750	.3785	.566	.3750	.3785	.588	.3750	.3800	.757	.557	.374	.377	.754						
7/16				.4375	.4415		.4375	.4425	.885	.665	.437	.441	.881						
1/2				.5000	.5045		.5000	.5050	1.012	.750	.500	.504	1.007						
9/16							.5625	.5670	1.140	.833									
5/8							.6250	.6300	1.267	.920									

* FOR 5/32 LOCKBOLTS ONLY

REDUCED CSK HEAD HT

1/ FOR BLIND RIVETS INSTALLED WITH SEALANT, HOLE DIAMETERS AS LISTED ARE REQUIRED.

Ⓑ

V. FASTENER INSTALLATION

1. COUNTERSINK DIAMETERS ARE NOMINALS ONLY AND MUST BE ADJUSTED TO MEET THE REQUIREMENTS OF NOTE 2.

2. UNLESS OTHERWISE NOTED, COUNTERSINKS SHALL INSURE FASTENER HEAD FLUSHNESS AS FOLLOWS:

   A. ± .005 ON EXTERIOR OR AERODYNAMIC SURFACES.

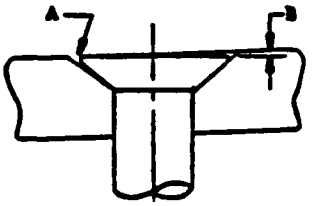
   B. ± .010 ON ALL OTHER SURFACES.

3. BLIND FLUSH HEAD FASTENERS ARE NORMALLY INSTALLED FLUSH IN THE MATERIAL; HOWEVER, IF REQUIRED, FOR AERODYNAMIC SMOOTHNESS OR OTHER REASONS, THEY MAY BE MILLED OR GROUND FLUSH AFTER INSTALLATION. BLIND FASTENER HEADS MAY BE REDUCED ONLY PER MANUFACTURER'S RECOMMENDATIONS OR APPLICABLE MILITARY TECHNICAL ORDERS.

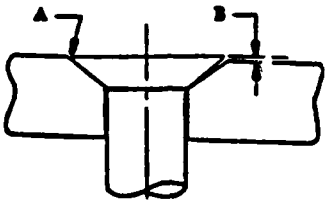
Ⓕ 4. BREAK-NECK AREA OF PULL-STEM ALLOY STEEL PULL TYPE LOCKBOLTS AND BLIND FASTENERS AND MILLED FLUSH HEADS SHALL BE TOUCHED UP FOR CORROSION PROTECTION PER APPLICABLE FINISH SPECIFICATION CODE.

5. IN STEEL OR TITANIUM STRUCTURE, THE HEAD TO SHANK RADII OR CHAMFER IS REQUIRED PER M199, NOTE 6.

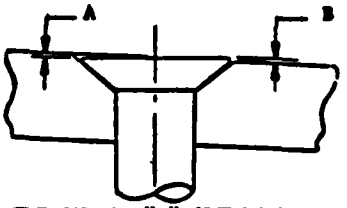
Ⓕ 6. MAXIMUM PERMISSIBLE HOLE ANGULARITY, COUNTERSINK ECCENTRICITY AND GAPS CREATED AROUND FASTENER HEAD SEAT SHALL BE DETERMINED BY MEASURING MISMATCH TO SKIN SURFACE OR GAP UNDER PROTUDING HEAD AS SHOWN BELOW. DO NOT REMOVE SEALANT FROM HOLE COUNTERSINK. IF SEALANT IS REMOVED FROM UNDER PROTUDING HEAD FASTENER, IT SHALL BE IMMEDIATELY REPLACED AFTER INSPECTION.



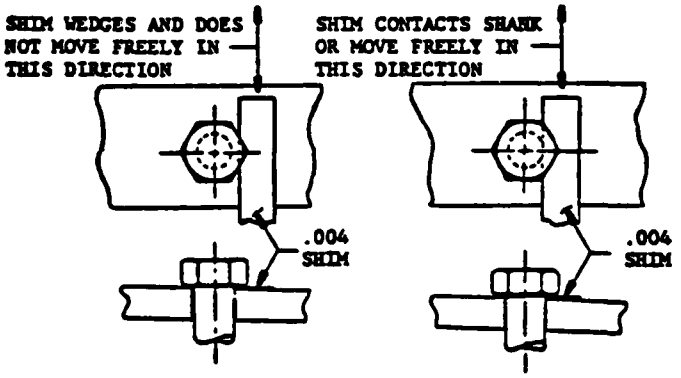
WITH "A" FLUSH TO CONTOUR, "B" AT OPPOSITE SIDE SHALL NOT EXCEED .005 INCH



WITH "A" FLUSH TO CONTOUR, "B" AT OPPOSITE SIDE SHALL NOT EXCEED .005 INCH



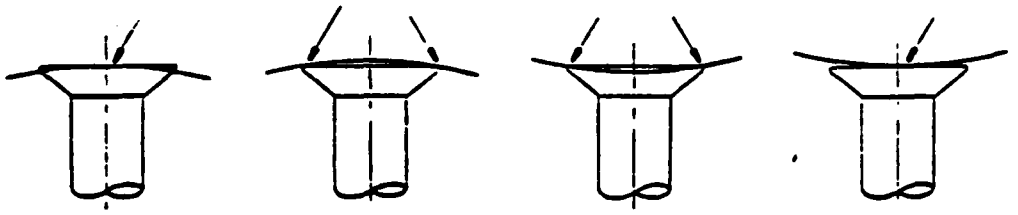
THE SUM OF "A" (BELOW CONTOUR) AND "B" (ABOVE CONTOUR) AT A POINT DIRECTLY OPPOSITE SHALL NOT EXCEED .005 INCH



REV RELEASE 24 FEB 1978		SIZE A	CODE IDENT NO. 81755	M198
ORIG RELEASE				
CONTRACT NO. F33657-75-C-0310		SCALE	REVISION F	SHEET 3

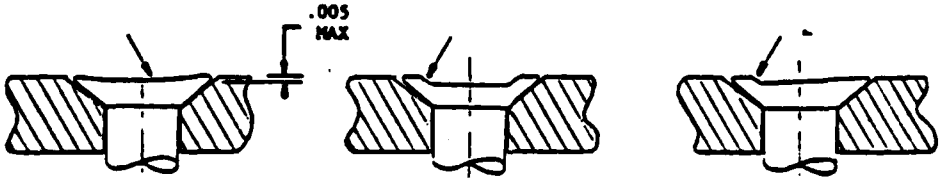
DEPARTMENT 68

7. THE MISMATCH LIMITS FOR FASTENERS INSTALLED ON CURVED SURFACES SHALL BE MEASURED AT POINTS INDICATED AND SHALL NOT EXCEED ± .005.

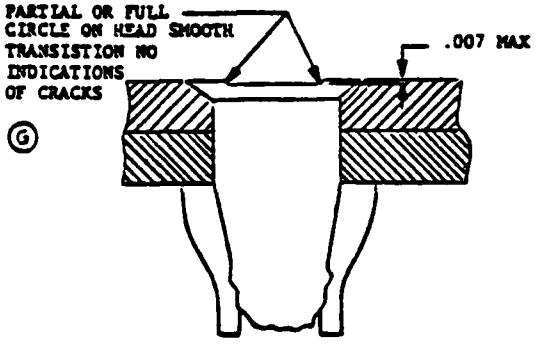


RADIUS OF CURVATURE GREATER THAN 6 INCHES | RADIUS OF CURVATURE 6 INCHES OR LESS | RADIUS OF CURVATURE GREATER THAN 6 INCHES | RADIUS OF CURVATURE 6 INCHES OR LESS

8. FASTENER HEAD DISH SHALL NOT EXCEED .005 IN DEPTH AND BE SMOOTH AND UNIFORM.



ACCEPTABLE | UNACCEPTABLE | UNACCEPTABLE



ACCEPTABLE FOR FULL-TYPE LOCKBOLTS

9. ACCEPTABILITY OF THE BLIND FASTENER INSTALLATION SHALL BE DETERMINED FROM EACH INSPECTION OF THE MANUFACTURED HEAD SIDE (REFERENCE PROCESS STANDARDS 34.02-11 AND 34.02-14).

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APPENDIX B

Fractography Data (F-16 400 Hr. Spectrum)

Appendix B

Fractography Data (F-16 400 Hour Spectra)

(Primary Cracks)

Data Set Designation	Number	Page
AFLR4	10	B-4
AFLR3	7	B-8
AFMR4(A)	10	B-11
AFMR4(B)	11	B-15
AFMC4	10	B-17
AFHR4(A)	10	B-22
AFHR4(B)	9	B-27
AFXLR4	11	B-32
AFXLR3	12	B-39
AFXMR4	10	B-45
AFXMR3	9	B-50
AFXMC4	10	B-55
AFXMP4	10	B-60
AFXHR4	10	B-65
AFXHR3	10	B-70
AFXHP4	9	B-75
AFYLR4	8	B-80
AFYMR4	10	B-84
AFYMC4	6	B-87
AFYHR4	10	B-92
AFZLR4	6	B-97
AFZLR4	6	B-100
AFZmR4	4	B-102
AFZMR4	6	B-104
AFZMC4	2	B-107
AFZHR4	9	B-108
TFLC4	5	B-113
TFMC4	8	B-116
TFXLC4	10	B-120
SFLP4	6	B-125
SFMP4	5	B-128
SFHP4	5	B-131

Appendix B

Fractography Date (F-16 400 Hour Spectra)(Secondary Cracks)

Data Set Designation	Number	Page
AFLR3	1	B-135
AFLR4	3	B-135
AFMR4(B)	1	B-137
AFMR4(A)	8	B-137
AFXLR4	9	B-141
AFXLR3	11	B-146
AFXMR3	8	B-153
AFXMP4	3	B-157
AFYLR4	6	B-159
AFZmR4	5	B-163

Data set AFLR4
Specimen no. 1 (102A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 Ksi
Test Date 5-16-80
Fatigue Life 23606.
Failure load: A)
B)

Initiation Location(s)
BORE

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
13600.	0.0222	14000.	0.0238
14400.	0.0257	14800.	0.0277
15200.	0.0302	15600.	0.0324
16000.	0.0347	16400.	0.0376
16800.	0.0419	17200.	0.0462
17600.	0.0523	18000.	0.0588
18400.	0.0657	18800.	0.0732
19200.	0.0822	19600.	0.0920
20000.	0.1031	20400.	0.1146
20800.	0.1275	21200.	0.1436
21600.	0.1616	22000.	0.1842
22400.	0.2108	22800.	0.2473
23200.	0.2953	23606.	0.3702

Data set AFLR4
Specimen no. 2 (103B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 Ksi
Test Date 5-14-80
Fatigue Life 24750.
Failure load: A)
B)

Initiation Location(s)
BORE

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12000.	0.0208	12400.	0.0221
12800.	0.0241	13200.	0.0260
13600.	0.0284	14000.	0.0323
14400.	0.0356	14800.	0.0410
15200.	0.0472	15600.	0.0536
16000.	0.0596	16400.	0.0654
16800.	0.0723	17200.	0.0776
17600.	0.0858	18000.	0.0938
18400.	0.1020	18800.	0.1135
19200.	0.1250	19600.	0.1373
20000.	0.1504	20400.	0.1644
20800.	0.1797	21200.	0.1978
21600.	0.2161	22000.	0.2380
22400.	0.2611	22800.	0.2894
23200.	0.3230	23600.	0.3622
24000.	0.4147	24400.	0.4610
-24750.	0.5240		

Data set AFLR4
Specimen no. 3 (104E)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 5-19-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10800.	0.0113	11200.	0.0121
11600.	0.0131	12000.	0.0140
12400.	0.0149	12800.	0.0160
13200.	0.0171	13600.	0.0183
14000.	0.0198	14400.	0.0212
14800.	0.0228	15200.	0.0257
15600.	0.0291	16000.	0.0300

Data set AFLR4
Specimen no. 4 (105A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 5-19-80
Fatigue Life 25235.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12800.	0.0195	13200.	0.0223
13600.	0.0247	14000.	0.0266
14400.	0.0290	14800.	0.0326
15200.	0.0368	15600.	0.0396
16000.	0.0437	16400.	0.0485
16800.	0.0548	17200.	0.0602
17600.	0.0666	18000.	0.0733
18400.	0.0817	18800.	0.0890
19200.	0.0978	19600.	0.1070
20000.	0.1166	20400.	0.1295
20800.	0.1399	21200.	0.1531
21600.	0.1681	22000.	0.1798
22400.	0.1944	22800.	0.2123
23200.	0.2311	23600.	0.2540
24000.	0.2798	24400.	0.3113
24800.	0.3541	25235.	0.4162

Data set AFLR4
Specimen no. 6 (106A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 5-21-80
Fatigue Life 28006.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
18000.	0.0257	18400.	0.0277
18800.	0.0291	19200.	0.0312
19600.	0.0329	20000.	0.0351
20400.	0.0380	20800.	0.0418
21200.	0.0464	21600.	0.0491
22000.	0.0549	22400.	0.0594
22800.	0.0653	23200.	0.0718
23600.	0.0794	24000.	0.0881
24400.	0.0967	24800.	0.1075
25200.	0.1197	25600.	0.1341
26000.	0.1525	26400.	0.1728
26800.	0.1999	27200.	0.2357
27600.	0.2845	28006.	0.3708

Data set AFLR4
Specimen no. 9 (107B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 5-21-80
Fatigue Life 28806.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
16800.	0.0252	17200	0.0264
17600.	0.0278	18000.	0.0291
18400.	0.0311	18800.	0.0337
19200.	0.0366	19600.	0.0397
20000.	0.0427	20400.	0.0468
20800.	0.0521	21200.	0.0577
21600.	0.0632	22000.	0.0662
22400.	0.0717	22800.	0.0775
23200.	0.0843	23600.	0.0908
24000.	0.0989	24400.	0.1081
24800.	0.1175	25200.	0.1304
25600.	0.1434	26000.	0.1591
26400.	0.1753	26800.	0.1968
27200.	0.2264	27600.	0.2617
28000.	0.3190	28400.	0.3765
28806.	c 4/47		

Data set AFLR4
Specimen no. 10 (10BA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 5-30-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12800.	0.0201	13200.	0.0222
13600.	0.0251	14000.	0.0284
14400.	0.0324	14800.	0.0367
15200.	0.0420	15600.	0.0484
16000.	0.0532		

Specimen Nos. 379-381

No Cracks After 16,000 Flight Hours

Data set AFLR3
Specimen no. 2 (99B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 5/12/80
Fatigue Life 29948.
Failure load: A)
B)

Initiation Location(s)

Notes:

A - .2806" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
14800.	0.0117	15200.	0.0128
15600.	0.0140	16000.	0.0153
16400.	0.0173	16800.	0.0189
17200.	0.0205	17600.	0.0227
18000.	0.0255	18400.	0.0276
18800.	0.0295	19200.	0.0324
19600.	0.0362	20000.	0.0390
20400.	0.0434	20800.	0.0482
21200.	0.0542	21600.	0.0593
22000.	0.0656	22400.	0.0728
22800.	0.0805	23200.	0.0885
23600.	0.0974	24000.	0.1074
24400.	0.1180	24800.	0.1293
25200.	0.1417	25600.	0.1541
26000.	0.1687	26400.	0.1856
26800.	0.2026	27200.	0.2223
27600.	0.2437	28000.	0.2690
28400.	0.3008	28800.	0.3408
29200.	0.3922	29948.	0.4801

Data set AFLR3
Specimen no. 4 (100A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 5/12/80
Fatigue Life 23600.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0107	6800.	0.0122
7200.	0.0132	7600.	0.0157
8000.	0.0178	8400.	0.0196
8800.	0.0224	9200.	0.0252
9600.	0.0283	10000.	0.0304
10400.	0.0327	10800.	0.0350
11200.	0.0377	11600.	0.0413
12000.	0.0443	12400.	0.0479
12800.	0.0513	13200.	0.0570
13600.	0.0635	14000.	0.0687
14400.	0.0743	14800.	0.0793
15200.	0.0875	15600.	0.0942
16000.	0.1031	16400.	0.1130
16800.	0.1213	17200.	0.1319
17600.	0.1421	18000.	0.1540
18400.	0.1672	18800.	0.1813
19200.	0.1947	19600.	0.2090
20000.	0.2277	20400.	0.2461
20800.	0.2694	21200.	0.2968
21600.	0.3259	22000.	0.3575
22400.	0.3943	22800.	0.4437
23200.	0.5010	23600.	0.5653

Data set AFLR3
Specimen no. 3 (10/A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 5/15/80
Fatigue Life 23600.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0121	9200.	0.0132
9600.	0.0147	10000.	0.0162
10400.	0.0178	10800.	0.0195
11200.	0.0209	11600.	0.0233
12000.	0.0258	12400.	0.0278
12800.	0.0313	13200.	0.0348
13600.	0.0388	14000.	0.0429
14400.	0.0479	14800.	0.0530
15200.	0.0582	15600.	0.0634
16000.	0.0700	16400.	0.0777
16800.	0.0863	17200.	0.0943
17600.	0.1032	18000.	0.1131
18400.	0.1234	18800.	0.1344
19200.	0.1482	19600.	0.1615
20000.	0.1775	20400.	0.1941
20800.	0.2145	21200.	0.2372
21600.	0.2607	22000.	0.2900
22400.	0.3285	22800.	0.3785
23200.	0.4390	23600.	0.4871

Data set AFLR3
Specimen no. 5 (621A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
NO CRACK IN B HOLE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0069	9200.	0.0078
9600.	0.0092	10000.	0.0107
10400.	0.0127	10800.	0.0145
11200.	0.0167	11600.	0.0192
12000.	0.0219	12400.	0.0246
12800.	0.0274	13200.	0.0300
13600.	0.0335	14000.	0.0391
14400.	0.0451	14800.	0.0555
15200.	0.0678	15600.	0.0824
16000.	0.0980		

Data set AFLR3 (623 B)
Specimen no. 6
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:
NO CRACK IN A HOLE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12800.	0.0161	13200.	0.0170
13600.	0.0179	14000.	0.0194
14400.	0.0208	14800.	0.0221
15200.	0.0239	15600.	0.0255
16000.	0.0275		

SPEC NO. 622, 624
NO CRACKS AFTER 16000 FLIGHT HOURS

Data set AFMR4 (A)
Specimen no. 2 (109B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 5-30-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
—

Notes:
A-.0491"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9200.	0.0149	9600.	0.0161
10000.	0.0172	10400.	0.0188
10800.	0.0202	11200.	0.0214
11600.	0.0232	12000.	0.0245
12400.	0.0264	12800.	0.0287
13200.	0.0307	13600.	0.0331
14000.	0.0361	14400.	0.0390
14800.	0.0425	15200.	0.0471
15600.	0.0522	16000.	0.0584

Data set AFMR4 (A)
Specimen no. 4 (111B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 5-30-80
Fatigue Life 21606.
Failure load: A)
B)

Initiation Location(s)
—

Notes:
A-.1041"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12000.	0.0162	12400.	0.0185
12800.	0.0213	13200.	0.0268
13600.	0.0308	14000.	0.0341
14400.	0.0377	14800.	0.0414
15200.	0.0447	15600.	0.0506
16000.	0.0558	16400.	0.0625
16800.	0.0707	17200.	0.0790
17600.	0.0897	18000.	0.1011
18400.	0.1120	18800.	0.1269
19200.	0.1424	19600.	0.1615
20000.	0.1862	20400.	0.2141
20800.	0.2541	21200.	0.3134
21600.	0.4000	21606.	0.4159

Data set AFMR4 (A)
Specimen no. 5 (112A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-2-80
Fatigue Life 21635.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
13200.	0.0185	13600.	0.0226
14000.	0.0258	14400.	0.0302
14800.	0.0346	15200.	0.0397
15600.	0.0455	16000.	0.0511
16400.	0.0584	16800.	0.0666
17200.	0.0750	17600.	0.0835
18000.	0.0977	18400.	0.1107
18800.	0.1230	19200.	0.1375
19600.	0.1563	20000.	0.1757
20400.	0.1998	20800.	0.2294
21200.	0.2718	21600.	0.3156
21635.	0.3372		

Initiation Location(s)

–

Notes:

B- .1190"

Data set AFMR4 (A)
Specimen no. 7 (113A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-3-80
Fatigue Life 13055.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.014	5200.	0.0173
5600.	0.0206	6000.	0.0271
6400.	0.0337	6800.	0.0382
7200.	0.0449	7600.	0.0527
8000.	0.0606	8400.	0.0699
8800.	0.0789	9200.	0.0909
9600.	0.1042	10000.	0.1211
10400.	0.1396	10800.	0.1621
11200.	0.1893	11600.	0.2308
12000.	0.2749	12400.	0.3433
12800.	0.3935	13055.	0.4431

Initiation Location(s)

Notes:

Data set AFMR4 (A)
Specimen no. 10 (114 B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-5-80
Fatigue Life 23606.
Failure load: A)
B)

Initiation Location(s)

Notes:
A - .3274"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
15200.	0.0198	15600.	0.0219
16000.	0.0247	16400.	0.0286
16800.	0.0337	17200.	0.0363
17600.	0.0418	18000.	0.0470
18400.	0.0540	18800.	0.0619
19200.	0.0698	19600.	0.0810
20000.	0.0921	20400.	0.1054
20800.	0.1188	21200.	0.1357
21600.	0.1544	22000.	0.1753
22400.	0.2031	22800.	0.2364
23200.	0.2863	23606.	0.3738

Data set AFMR4 (A)
Specimen no. 11 (115A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-9-80
Fatigue Life 25206.
Failure load: A)
B)

Initiation Location(s)

Notes:
B - .3679"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
13600.	0.0177	14000.	0.0205
14400.	0.0228	14800.	0.0253
15200.	0.0282	15600.	0.0321
16000.	0.0343	16400.	0.0374
16800.	0.0414	17200.	0.0458
17600.	0.0510	18000.	0.0563
18400.	0.0634	18800.	0.0717
19200.	0.0791	19600.	0.0869
20000.	0.0945	20400.	0.1074
20800.	0.1147	21200.	0.1247
21600.	0.1385	22000.	0.1525
22400.	0.1697	22800.	0.1870
23200.	0.2079	23600.	0.2315
24000.	0.2579	24400.	0.2874
24800.	0.3294	25206.	0.3853

Data set AFMR4 (A)
Specimen no. 13 (116A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-9-80
Fatigue Life 19206.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B - .2039" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0109	9200.	0.0122
9600.	0.0136	10000.	0.0170
10400.	0.0192	10800.	0.0222
11200.	0.0254	11600.	0.0280
12000.	0.0307	12400.	0.0348
12800.	0.0405	13200.	0.0447
13600.	0.0501	14000.	0.0574
14400.	0.0658	14800.	0.0754
15200.	0.0856	15600.	0.0972
16000.	0.1091	16400.	0.1225
16800.	0.1390	17200.	0.1562
17600.	0.1826	18000.	0.2124
18400.	0.2494	18800.	0.3076
19206.	0.4021		

Data set AFMR4 (A)
Specimen no. 14 (117A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 6-9-80
Fatigue Life 27206.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
SHARP GROOVE IN HOLE
B - .1678" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
14400.	0.0155	14800.	0.0167
15200.	0.0182	15600.	0.0198
16000.	0.0211	16400.	0.0235
16800.	0.0259	17200.	0.0276
17600.	0.0298	18000.	0.0330
18400.	0.0360	18800.	0.0395
19200.	0.0432	19600.	0.0468
20000.	0.0517	20400.	0.0564
20800.	0.0616	21200.	0.0685
21600.	0.0754	22000.	0.0834
22400.	0.0915	22800.	0.1002
23200.	0.1096	23600.	0.1203
24000.	0.1323	24400.	0.1453
24800.	0.1607	25200.	0.1776
25600.	0.1982	26000.	0.2262
26400.	0.2620	26800.	0.3114
27206.	0.3960		

SPECIMEN NOS. 110
NO CRACK AFTER 16000 FLT HRS
SPECIMEN NOS. 11B DESTROYED IN FIXTURE

Data set AFMR4 (B)
Specimen no. 33 (696A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7600.	0.0013	8000.	0.0016
8400.	0.0018	8800.	0.0019
9200.	0.0020	9600.	0.0024
10000.	0.0028	10400.	0.0029
10800.	0.0032	11200.	0.0035
11600.	0.0038	12000.	0.0043
12400.	0.0047	12800.	0.0049
13200.	0.0055	13600.	0.0059
14000.	0.0064	14400.	0.0072
14800.	0.0079	15200.	0.0085
15600.	0.0095	16000.	0.0103

Initiation Location(s)
BORE
Notes:
B: NO CRACK IN B HOLE

Data set AFMR4 (B)
Specimen no. 34 (697A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0063	9200.	0.0067
9600.	0.0076	10000.	0.0086
10400.	0.0094	10800.	0.0105
11200.	0.0116	11600.	0.0126
12000.	0.0136	12400.	0.0158
12800.	0.0171	13200.	0.0188
13600.	0.0209	14000.	0.0239
14400.	0.0274	14800.	0.0313
15200.	0.0352	15600.	0.0416
16000.	0.0482		

Initiation Location(s)
(C.S. - B)
Notes:
NO CRACK IN B HOLE

Data set AFMR4 (B)
Specimen no. 35 (6998)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:
NO CRACK IN A HOLE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0032	3600.	0.0042
4000.	0.0051	4400.	0.0063
4800.	0.0079	5200.	0.0098
5600.	0.0117	6000.	0.0134
6400.	0.0152	6800.	0.0165
7200.	0.0190	7600.	0.0206
8000.	0.0229	8400.	0.0254
8800.	0.0278	9200.	0.0298
9600.	0.0330	10000.	0.0366
10400.	0.0398	10800.	0.0436
11200.	0.0464	11600.	0.0511
12000.	0.0558	12400.	0.0602
12800.	0.0644	13200.	0.0688
13600.	0.0742	14000.	0.0798
14400.	0.0854	14800.	0.0919
15200.	0.0992	15600.	0.1064
16000.	0.1140		

Data set AFMR4 (B)
Specimen no. 36 (700A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B: 0.0180

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0029	5200.	0.0033
5600.	0.0037	6000.	0.0041
6400.	0.0046	6800.	0.0050
7200.	0.0056	7600.	0.0063
8000.	0.0070	8400.	0.0077
8800.	0.0083	9200.	0.0090
9600.	0.0095	10000.	0.0105
10400.	0.0114	10800.	0.0124
11200.	0.0131	11600.	0.0142
12000.	0.0157	12400.	0.0166
12800.	0.0181	13200.	0.0195
13600.	0.0207	14000.	0.0216
14400.	0.0232	14800.	0.0246
15200.	0.0262	15600.	0.0282
16000.	0.0292		

SPECIMEN NOS. 698, 701, 702, 703, 704, 705, 706
NO CRACKS AFTER 16,000 FLIGHT HOURS

Data set AFMC4
Specimen no. 10 (467A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-15-80
Fatigue Life 15550.
Failure load: A)
B)

Initiation Location(s)
MULTI BORE, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0102	5600.	0.0120
6000.	0.0135	6400.	0.0145
6800.	0.0163	7200.	0.0186
7600.	0.0212	8000.	0.0237
8400.	0.0266	8800.	0.0297
9200.	0.0334	9600.	0.0375
10000.	0.0434	10400.	0.0498
10800.	0.0562	11200.	0.0651
11600.	0.0750	12000.	0.0877
12400.	0.1045	12800.	0.1230
13200.	0.1437	13600.	0.1752
14000.	0.1986	14400.	0.2351
14800.	0.2905	15200.	0.3738
15550.	0.4251		

Data set AFMC4
Specimen no. 9 (468A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 11879.
Failure load: A)
B)

Initiation Location(s)
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Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0180	5200.	0.0205
5600.	0.0241	6000.	0.0278
6400.	0.0331	6800.	0.0419
7200.	0.0504	7600.	0.0582
8000.	0.0683	8400.	0.0816
8800.	0.1063	9200.	0.1263
9600.	0.1477	10000.	0.1744
10400.	0.2056	10800.	0.2470
11200.	0.3128	11600.	0.3921
11879.	0.4138		

Data set AFMC4
Specimen no. 8 (469B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-15-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI ; BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0051	5200.	0.0063
5600.	0.0083	6000.	0.0098
6400.	0.0120	6800.	0.0147
7200.	0.0173	7600.	0.0200
8000.	0.0224	8400.	0.0244
8800.	0.0263	9200.	0.0292
9600.	0.0329	10000.	0.0363
10400.	0.0397	10800.	0.0444
11200.	0.0493	11600.	0.0530
12000.	0.0590	12400.	0.0663
12800.	0.0731	13200.	0.0808
13600.	0.0891	14000.	0.1002
14400.	0.1087	14800.	0.1204
15200.	0.1342	15600.	0.1499
16000.	0.1660		

Data set AFMC4
Specimen no. 7 (470B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 13959.
Failure load: A)
B)

Initiation Location(s)
MULTI ; BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0125	5600.	0.0147
6000.	0.0170	6400.	0.0192
6800.	0.0215	7200.	0.0236
7600.	0.0271	8000.	0.0316
8400.	0.0365	8800.	0.0435
9200.	0.0510	9600.	0.0585
10000.	0.0652	10400.	0.0765
10800.	0.0849	11200.	0.0965
11600.	0.1106	12000.	0.1289
12400.	0.1572	12800.	0.1972
13200.	0.2510	13600.	0.3306
13959.	0.3559		

Data set AFMC4
Specimen no. 6 (471A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0089	9200.	0.0100
9600.	0.0114	10000.	0.0131
10400.	0.0148	10800.	0.0166
11200.	0.0188	11600.	0.0216
12000.	0.0241	12400.	0.0266
12800.	0.0291	13200.	0.0328
13600.	0.0364	14000.	0.0389
14400.	0.0434	14800.	0.0471
15200.	0.0521	15600.	0.0566
16000.	0.0610		

Data set AFMC4
Specimen no. 5 (472A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
11200.	0.0086	11600.	0.0104
12000.	0.0121	12400.	0.0146
12800.	0.0167	13200.	0.0197
13600.	0.0229	14000.	0.0256
14400.	0.0291	14800.	0.0341
15200.	0.0390	15600.	0.0452
16000.	0.0511		

Data set AFMC4
Specimen no. 4 (473A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date 4-16-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0117	6000.	0.0134
6400.	0.0154	6800.	0.0176
7200.	0.0195	7600.	0.0224
8000.	0.0251	8400.	0.0276
8800.	0.0305	9200.	0.0343
9600.	0.0379	10000.	0.0415
10400.	0.0458	10800.	0.0514
11200.	0.0567	11600.	0.0622
12000.	0.0668	12400.	0.0731
12800.	0.0784	13200.	0.0870
13600.	0.0949	14000.	0.1032
14400.	0.1126	14800.	0.1238
15200.	0.1383	15600.	0.1554
16000.	0.1769		

Data set AFMC4
Specimen no. 3 (474A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date 4-16-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10000.	0.0065	10400.	0.0079
10800.	0.0097	11200.	0.0108
11600.	0.0123	12000.	0.0137
12400.	0.0157	12800.	0.0184
13200.	0.0210	13600.	0.0248
14000.	0.0282	14400.	0.0308
14800.	0.0350	15200.	0.0404
15600.	0.0446	16000.	0.0488

Data set AFMC4
Specimen no. 2 (475A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 15078.
Failure load: A)
B)

Initiation Location(s)
(MULTI) : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0181	5200.	0.0205
5600.	0.0239	6000.	0.0271
6400.	0.0300	6800.	0.0345
7200.	0.0394	7600.	0.0428
8000.	0.0474	8400.	0.0527
8800.	0.0592	9200.	0.0660
9600.	0.0734	10000.	0.0819
10400.	0.0896	10800.	0.0987
11200.	0.1112	11600.	0.1239
12000.	0.1399	12400.	0.1564
12800.	0.1765	13200.	0.1994
13600.	0.2285	14000.	0.2633
14400.	0.3145	14800.	0.3528
15078.	0.3961		

Data set AFMC4
Specimen no. 1 (476B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 4-16-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(MULTI) : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10800.	0.0207	11200.	0.0243
11600.	0.0293	12000.	0.0334
12400.	0.0381	12800.	0.0435
13200.	0.0480	13600.	0.0554
14000.	0.0633	14400.	0.0721
14800.	0.0800	15200.	0.0913
15600.	0.1009	16000.	0.1082

Data set AFHR4 (A)
Specimen no. 3 (383A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 2-9-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0091	7200.	0.0102
7600.	0.0116	8000.	0.0128
8400.	0.0137	8800.	0.0156
9200.	0.0175	9600.	0.0192
10000.	0.0215	10400.	0.0240
10800.	0.0270	11200.	0.0298
11600.	0.0326	12000.	0.0360
12400.	0.0397	12800.	0.0429
13200.	0.0463	13600.	0.0515
14000.	0.0570	14400.	0.0622
14800.	0.0685	15200.	0.0766
15600.	0.0872	16000.	0.0949

Data set AFHR4 (A)
Specimen no. 4 (384A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 2-12-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7200.	0.0094	7600.	0.0105
8000.	0.0118	8400.	0.0134
8800.	0.0149	9200.	0.0165
9600.	0.0182	10000.	0.0208
10400.	0.0232	10800.	0.0258
11200.	0.0288	11600.	0.0328
12000.	0.0371	12400.	0.0402
12800.	0.0455	13200.	0.0514
13600.	0.0575	14000.	0.0649
14400.	0.0742	14800.	0.0858
15200.	0.1000	15600.	0.1185
16000.	0.1351		

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFHR4 (A)	7600.	0.0055	8000.	0.0061
Specimen no. 5 (385B)	8400.	0.0066	8800.	0.0072
Material 7475-T7351	9200.	0.0078	9600.	0.0088
Spectrum F-16 400 Hr.	10000.	0.0096	10400.	0.0108
Load Transfer None	10800.	0.0119	11200.	0.0131
Fast. type MS-90353 (1/4)	11600.	0.0147	12000.	0.0162
Stress Level 38.0 ksi	12400.	0.0180	12800.	0.0197
Test Date 2-12-81	13200.	0.0215	13600.	0.0235
Fatigue Life 16000.	14000.	0.0256	14400.	0.0282
Failure load: A)	14800.	0.0305	15200.	0.0327
B)	15600.	0.0359	16000.	0.0384

Initiation Location(s)
MULTI : BORE
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFHR4 (A)	7600.	0.0077	8000.	0.0084
Specimen no. 6 (386B)	8400.	0.0095	8800.	0.0105
Material 7475-T7351	9200.	0.0123	9600.	0.0134
Spectrum F-16 400 Hr.	10000.	0.0149	10400.	0.0167
Load Transfer None	10800.	0.0185	11200.	0.0207
Fast. type MS-90353 (1/4)	11600.	0.0230	12000.	0.0247
Stress Level 38.0 ksi	12400.	0.0272	12800.	0.0297
Test Date 2-12-81	13200.	0.0325	13600.	0.0355
Fatigue Life 16000.	14000.	0.0391	14400.	0.0431
Failure load: A)	14800.	0.0481	15200.	0.0531
B)	15600.	0.0596	16000.	0.0659

Initiation Location(s)
BORE
Notes:

Data set AFHR4 (A)
Specimen no. 7 (387A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 2-12-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI ; BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0066	10000.	0.0076
10400.	0.0087	10800.	0.0099
11200.	0.0112	11600.	0.0125
12000.	0.0135	12400.	0.0151
12800.	0.0166	13200.	0.0178
13600.	0.0192	14000.	0.0216
14400.	0.0237	14800.	0.0260
15200.	0.0283	15600.	0.0304
16000.	0.0323		

Data set AFHR4 (A)
Specimen no. 8 (581 A)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 10000.
Failure load: A)
B)

Initiation Location(s)
MULTI ; BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0241	3600.	0.0255
4000.	0.0281	4400.	0.0312
4800.	0.0356	5200.	0.0418
5600.	0.0487	6000.	0.0557
6400.	0.0635	6800.	0.0727
7200.	0.0875	7600.	0.1030
8000.	0.1238	8400.	0.1489
8800.	0.1801	9200.	0.1988
9600.	0.230	10000.	0.3206

Data set AFHR4 (A)
Specimen no. 9 (582 B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 7206.
Failure load: A)
B)

Initiation Location(s)
MULTI: BORE, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0145	2400.	0.0250
2800.	0.0350	3200.	0.0442
3600.	0.0546	4000.	0.0643
4400.	0.0753	4800.	0.0858
5200.	0.1012	5600.	0.1200
6000.	0.1444	6400.	0.1772
6800.	0.2360	7206.	0.3402

Data set AFHR4 (A)
Specimen no. 10 (583 B)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 10007.
Failure load: A)
B)

Initiation Location(s)
MULTI: BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3600.	0.0188	4000.	0.0231
4400.	0.0269	4800.	0.0299
5200.	0.0354	5600.	0.0398
6000.	0.0457	6400.	0.0534
6800.	0.0640	7200.	0.0742
7600.	0.0883	8000.	0.1047
8400.	0.1258	8800.	0.1526
9200.	0.1861	9600.	0.2383
10007.	0.3301		

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFHR4 (A)	8400.	0.0112	8800.	0.0132
Specimen no. 11 (584 B)	9200.	0.0152	9600.	0.0177
Material 7475-T7351	10000.	0.0188	10400.	0.0211
Spectrum F-16 400 Hr.	10800.	0.0233	11200.	0.0266
Load Transfer None	11600.	0.0289	12000.	0.0316
Fast. type MS-90353 (1/4)	12400.	0.0347	12800.	0.0384
Stress Level 38.0 ksi	13200.	0.0420	13600.	0.0463
Test Date	14000.	0.0511	14400.	0.0571
Fatigue Life 16000.	14800.	0.0646	15200.	0.0719
Failure load: A)	15600.	0.0799	16000.	0.0887
B)				

Initiation Location(s)
BORE
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFHR4 (A)	2800.	0.0107	3200.	0.0127
Specimen no. 12 (585 B)	3600.	0.0148	4000.	0.0179
Material 7475-T7351	4400.	0.0228	4800.	0.0282
Spectrum F-16 400 Hr.	5200.	0.0333	5600.	0.0386
Load Transfer None	6000.	0.0455	6400.	0.0521
Fast. type MS-90353 (1/4)	6800.	0.0595	7200.	0.0679
Stress Level 38.0 ksi	7600.	0.0774	8000.	0.0896
Test Date	8400.	0.1053	8800.	0.1229
Fatigue Life 10678.	9200.	0.1471	9600.	0.1749
Failure load: A)	10000.	0.2121	10400.	0.2691
B)	10678.	0.3905		

Initiation Location(s)
MULTI : BORE
Notes:

Data set AFHR4 (B)
Specimen no. 654B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(14)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
10000	.0148	10400	.0162
10800	.0173	11200	.0186
11600	.0200	12000	.0214
12400	.0228	12800	.0243
13200	.0260	13600	.0272
14000	.0289	14400	.0307
14800	.0327	15200	.0343
15600	.0361	16000	.0384

Initiation Location(s)
BORE

Notes:

Data set AFHR4 (B)
Specimen no. 655A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(14)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
5200	.0115	5600	.0141
6000	.0163	6400	.0192
6800	.0225	7200	.0251
7600	.0283	8000	.0315
8400	.0351	8800	.0382
9200	.0408	9600	.0440
10000	.0472	10400	.0498
10800	.0541	11200	.0580
11600	.0616	12000	.0651
12400	.0695	12800	.0746
13200	.0797	13600	.0863
14000	.0932	14400	.1020
14800	.1114	15200	.1212
15600	.1319	16000	.1455

Initiation Location(s)
(C.S.-B INTERSECTION)

Notes:

Data set AFHR4 (B)
Specimen no. 656A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(1/4)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
10400	.0173	10800	.0185
11200	.0198	11600	.0211
12000	.0222	12400	.0236
12800	.0253	13200	.0267
13600	.0281	14000	.0299
14400	.0313	14800	.0328
15200	.0346	15600	.0360
16000	.0376		

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Data set AFHR4 (B)
Specimen no. 657A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(1/4)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
13200	.0119	13600	.0127
14000	.0136	14400	.0144
14800	.0152	15200	.0158
15600	.0166	16000	.0172

Initiation Location(s)
BORE
Notes:

Data set AFHR4 (B)
Specimen no. 658B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(1/4)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
8800	.0098	9200	.0118
9600	.0135	10000	.0153
10400	.0177	10800	.0197
11200	.0219	11600	.0243
12000	.0269	12400	.0297
12800	.0321	13200	.0348
13600	.0375	14000	.0401
14400	.0426	14800	.0460
15200	.0495	15600	.0532
16000	.0588		

Initiation Location(s)
BORE
Notes:

Data set AFHR4 (B)
Specimen no. 659A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(1/4)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
10800	.2163	11200	.2667
11235	.2789		

Initiation Location(s)

Notes:

Data set AFHR4 (B)
Specimen no. 660B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(14)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
15200	.0230	15600	.0260
16000	.0292		

Initiation Location(s)
BORE
Notes:

Data set AFHR4 (B)
Specimen no. 661B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353(14)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
9600	.0320	10000	.0349
10400	.0377	10800	.0419
11200	.0453	11600	.0499
12000	.0541	12400	.0587
12800	.0633	13200	.0686
13600	.0739	14000	.0793
14400	.0862	14800	.0933
15200	.1019	15600	.1123
16000	.1246		

Initiation Location(s)
BORE
Notes:

Data set AFHR4 (B)
Specimen no. 662B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (HI)
Stress Level 38.0 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
8400	.0082	8800	.0092
9200	.0104	9600	.0115
10000	.0126	10400	.0137
10800	.0153	11200	.0160
11600	.0172	12000	.0185
12400	.0198	12800	.0208
13200	.0224	13600	.0235
14000	.0245	14400	.0263
14800	.0278	15200	.0294
15600	.0309	16000	.0328

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Data set AFXLR4
Specimen no. 18 (558)TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 Ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0166	8400.	0.0190
8800.	0.0216	9200.	0.0255
9600.	0.0282	10000.	0.0324
10400.	0.0371	10800.	0.0409
11200.	0.0456	11600.	0.0513
12000.	0.0592	12400.	0.0658
12800.	0.0948	13200.	0.0837
13600.	0.0953	14000.	0.1072
14400.	0.1194	14800.	0.1330
15200.	0.1507	15600.	0.1688
16000.	0.1821		

Initiation Location(s)
CORNER
Notes:

Data set AFXLR4
Specimen no. 20 (559HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 Ksi
Test Date
Fatigue Life 10407.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0245	4400.	0.0330
4800.	0.0398	5200.	0.0476
5600.	0.0583	6000.	0.0695
6400.	0.0830	6800.	0.0957
7200.	0.1123	7600.	0.1315
8000.	0.1524	8400.	0.1759
8800.	0.2011	9200.	0.2343
9600.	0.2714	10000.	0.3315
10400.	0.4327	10407.	0.4332

Initiation Location(s)
CS-B INTERSECTION
Notes:

Data set AFXLR4
Specimen no. 13 (33TA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-16-80
Fatigue Life 25235.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12000.	0.0296	12400.	0.0330
12800.	0.0346	13200.	0.0373
13600.	0.0396	14000.	0.0418
14400.	0.0449	14800.	0.0485
15200.	0.0528	15600.	0.0565
16000.	0.0604	16400.	0.0641
16800.	0.0689	17200.	0.0748
17600.	0.0756	18000.	0.0855
18400.	0.0921	18800.	0.0970
19200.	0.1052	19600.	0.1115
20000.	0.1151	20400.	0.1251
20800.	0.1335	21200.	0.1440
21600.	0.1539	22000.	0.1659
22400.	0.1765	22800.	0.1923
23200.	0.2101	23600.	0.2306
24000.	0.2576	24400.	0.2838
24800.	0.3127	25200.	0.3582
25235.	0.4370		

Data set AFXLR4
Specimen no. 15 (35TA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-16-80
Fatigue Life 23235.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0205	5600.	0.0256
6000.	0.0274	6400.	0.0285
6800.	0.0305	7200.	0.0333
7600.	0.0360	8000.	0.0384
8400.	0.0414	8800.	0.0439
9200.	0.0455	9600.	0.0476
10000.	0.0498	10400.	0.0524
10800.	0.0551	11200.	0.0572
11600.	0.0607	12000.	0.0641
12400.	0.0674	12800.	0.0702
13200.	0.0737	13600.	0.0761
14000.	0.0786	14400.	0.0811
14800.	0.0845	15200.	0.0903
15600.	0.0950	16000.	0.0997
16400.	0.1045	16800.	0.1106
17200.	0.1146	17600.	0.1214
18000.	0.1310	18400.	0.1411
18800.	0.1533	19200.	0.1665
19600.	0.1791	20000.	0.1923
20400.	0.2043	20800.	0.2189
21200.	0.2367	21600.	0.2562
22000.	0.2785	22400.	0.3042
22800.	0.3440	23235.	0.4008

Data set AFXLR4
Specimen no. 16 (36HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-16-80
Fatigue Life 24806.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0089	7200.	0.0102
7600.	0.0113	8000.	0.0118
8400.	0.0122	8800.	0.0131
9200.	0.0142	9600.	0.0156
10000.	0.0170	10400.	0.0180
10800.	0.0193	11200.	0.0204
11600.	0.0227	12000.	0.0247
12400.	0.0256	12800.	0.0282
13200.	0.0300	13600.	0.0327
14000.	0.0353	14400.	0.0384
14800.	0.0410	15200.	0.0442
15600.	0.0476	16000.	0.0512
16400.	0.0540	16800.	0.0581
17200.	0.0612	17600.	0.0668
18000.	0.0707	18400.	0.0758
18800.	0.0816	19200.	0.0876
19600.	0.0950	20000.	0.1035
20400.	0.1128	20800.	0.1230
21200.	0.1314	21600.	0.1443
22000.	0.1579	22400.	0.1710
22800.	0.1896	23200.	0.2117
23600.	0.2375	24000.	0.2736
24400.	0.3296	24800.	0.4454
24806.	0.4616		

Data set AFXLR4
Specimen no. 1 (120) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-20-80
Fatigue Life 31606.
Failure load: A)
B)

Initiation Location(s)

Notes:

HA - .0683"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0191	10000.	0.0202
10400.	0.0206	10800.	0.0211
11200.	0.0219	11600.	0.0226
12000.	0.0234	12400.	0.0240
12800.	0.0254	13200.	0.0266
13600.	0.0272	14000.	0.0284
14400.	0.0296	14800.	0.0305
15200.	0.0311	15600.	0.0323
16000.	0.0332	16400.	0.0344
16800.	0.0357	17200.	0.0370
17600.	0.0377	18000.	0.0399
18400.	0.0412	18800.	0.0426
19200.	0.0439	19600.	0.0454
20000.	0.0471	20400.	0.0499
20800.	0.0517	21200.	0.0532
21600.	0.0551	22000.	0.0571
22400.	0.0583	22800.	0.0603
23200.	0.0619	23600.	0.0639
24000.	0.0657	24400.	0.0674
24800.	0.0693	25200.	0.0707
25600.	0.0737	26000.	0.0763
26400.	0.0787	26800.	0.0814
27200.	0.0848	27600.	0.0870
28000.	0.0892	28400.	0.0925
28800.	0.0961	29200.	0.0998
29600.	0.1030	30000.	0.1066
30400.	0.1133	30800.	0.1204
31200.	0.1257	31606.	0.1343

Data set AFXLR4
Specimen no. 4 (12) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-20-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
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Notes:
ΔA: 0.1343
T_A: 0.1309
T_B: 0.0507

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10000.	0.0097	10400.	0.0103
10800.	0.0108	11200.	0.0115
11600.	0.0127	12000.	0.0136
12400.	0.0143	12800.	0.0151
13200.	0.0162	13600.	0.0171
14000.	0.0184	14400.	0.0195
14800.	0.0205	15200.	0.0217
15600.	0.0227	16000.	0.0244
16400.	0.0258	16800.	0.0276
17200.	0.0291	17600.	0.0306
18000.	0.0322	18400.	0.0339
18800.	0.0354	19200.	0.0376
19600.	0.0385	20000.	0.0414
20400.	0.0425	20800.	0.0448
21200.	0.0480	21600.	0.0521
22000.	0.0548	22400.	0.0577
22800.	0.0603	23200.	0.0638
23600.	0.0681	24000.	0.0726
24400.	0.0758	24800.	0.0796
25200.	0.0845	25600.	0.0884
26000.	0.0921	26400.	0.1039
26800.	0.1084	27200.	0.1091
27600.	0.1127	28000.	0.1156
28400.	0.1182	28800.	0.1212
29200.	0.1241	29600.	0.1281
30000.	0.1360	30400.	0.1439
30800.	0.1530	31200.	0.1624
31600.	0.1719	32000.	0.1817

Data set AFXLR4
Specimen no. 8 (122)TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-24-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HB - .0994" (F.S.)
TB - .0735" (C)
HA - .0515 (CORNER)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
11600.	0.0698	12000.	0.0703
12400.	0.0708	12800.	0.0714
13200.	0.0718	13600.	0.0724
14000.	0.0732	14400.	0.0738
14800.	0.0744	15200.	0.0750
15600.	0.0754	16000.	0.0765
16400.	0.0771	16800.	0.0776
17200.	0.0782	17600.	0.0787
18000.	0.0790	18400.	0.0795
18800.	0.0799	19200.	0.0805
19600.	0.0810	20000.	0.0815
20400.	0.0823	20800.	0.0834
21200.	0.0847	21600.	0.0860
22000.	0.0876	22400.	0.0895
22800.	0.0910	23200.	0.0931
23600.	0.0954	24000.	0.0971
24400.	0.1000	24800.	0.1029
25200.	0.1055	25600.	0.1078
26000.	0.1097	26400.	0.1117
26800.	0.1131	27200.	0.1145
27600.	0.1161	28000.	0.1173
28400.	0.1188	28800.	0.1202
29200.	0.1217	29600.	0.1234
30000.	0.1251	30400.	0.1268
30800.	0.1295	31200.	0.1318
31600.	0.1331	32000.	0.1335

Data set AFXLR4
Specimen no. 19 (123)TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 32.0 ksi
Test Date 6-24-80
Fatigue Life 30808.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .133" , HB - .5267"

Flt. Hours	Crack Size	Flt. Hours	Crack Size
20000.	0.0177	20400.	0.0186
20800.	0.0196	21200.	0.0223
21600.	0.0241	22000.	0.0258
22400.	0.0280	22800.	0.0302
23200.	0.0329	23600.	0.0348
24000.	0.0394	24400.	0.0439
24800.	0.0473	25200.	0.0513
25600.	0.0564	26000.	0.0614
26400.	0.0652	26800.	0.0712
27200.	0.0789	27600.	0.0860
28000.	0.0927	28400.	0.1000
28800.	0.1119	29200.	0.1253
29600.	0.1391	30000.	0.1573
30400.	0.1779	30808.	0.1990

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXLR4	8800.	0.0298	9200.	0.0319
Specimen no. 12 (124)TA	9600.	0.0337	10000.	0.0354
Material 7475-T7351	10400.	0.0369	10800.	0.0384
Spectrum F-16 400 Hr.	11200.	0.0401	11600.	0.0426
Load Transfer 15%	12000.	0.0449	12400.	0.0474
Fast. type MS-90353 (1/4)	12800.	0.0497	13200.	0.0533
Stress Level 32.0 ksi	13600.	0.0567	14000.	0.0597
Test Date 6-24-80	14400.	0.0630	14800.	0.0673
Fatigue Life 19206.	15200.	0.0714	15600.	0.0781
Failure load: A)	16000.	0.0839	16400.	0.0896
B)	16800.	0.0953	17200.	0.1028
	17600.	0.1088	18000.	0.1206
Initiation Location(s)	18400.	0.1357	18800.	0.1563
CORNER	19206.	0.1801		
Notes:				

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXLR4	5600.	0.0150	6000.	0.0204
Specimen no. 17 (557) HB	6400.	0.0275	6800.	0.0337
Material 7475-T7351	7200.	0.0402	7600.	0.0481
Spectrum F-16 400 Hr.	8000.	0.0572	8400.	0.0680
Load Transfer 15%	8800.	0.0854	9200.	0.0950
Fast. type MS-90353 (1/4)	9600.	0.1081	10000.	0.1336
Stress Level 32.0 ksi	10400.	0.1657	10800.	0.2145
Test Date	11200.	0.2826	11600.	0.4289
Fatigue Life 11606.	11606.	0.4324		
Failure load: A)				
B)				
Initiation Location(s)				
(C.S.-B)				
Notes:				

Data set AFXLR3
Specimen no. 2 (125)HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 6-25-80
Fatigue Life 22435.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
TB - .0474"
TA - .1185 BORE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12800.	0.0149	13200.	0.0173
13600.	0.0199	14000.	0.0229
14400.	0.0272	14800.	0.0321
15200.	0.0374	15600.	0.0419
16000.	0.0483	16400.	0.0557
16800.	0.0618	17200.	0.0694
17600.	0.0777	18000.	0.0871
18400.	0.1001	18800.	0.1137
19200.	0.1308	19600.	0.1466
20000.	0.1637	20400.	0.1821
20800.	0.2065	21200.	0.2351
21600.	0.2705	22000.	0.3155
22435.	0.3907		

Data set AFXLR3
Specimen no. 3 (127)HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 6-25-80
Fatigue Life 18855.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7200.	0.0173	7600.	0.0189
8000.	0.0207	8400.	0.0224
8800.	0.0249	9200.	0.0283
9600.	0.0321	10000.	0.0361
10400.	0.0406	10800.	0.0459
11200.	0.0516	11600.	0.0596
12000.	0.0681	12400.	0.0767
12800.	0.0879	13200.	0.1008
13600.	0.1091	14000.	0.1221
14400.	0.1377	14800.	0.1522
15200.	0.1680	15600.	0.1846
16000.	0.2030	16400.	0.2232
16800.	0.2444	17200.	0.2664
17600.	0.2934	18000.	0.3221
18400.	0.3661	18855.	0.4420

Data set AFXLR3
Specimen no. 4 (128) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 6-30-80
Fatigue Life 17078.
Failure load: A)
B)

Initiation Location(s)
- BORE
Notes:
TB .1119 ECKE
TA .1220 CORNER

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0138	4800.	0.0152
5200.	0.0168	5600.	0.0182
6000.	0.0200	6400.	0.0222
6800.	0.0246	7200.	0.0273
7600.	0.0298	8000.	0.0325
8400.	0.0371	8800.	0.0427
9200.	0.0485	9600.	0.0530
10000.	0.0582	10400.	0.0638
10800.	0.0705	11200.	0.0783
11600.	0.0868	12000.	0.0966
12400.	0.1053	12800.	0.1179
13200.	0.1327	13600.	0.1506
14000.	0.1678	14400.	0.1863
14800.	0.2067	15200.	0.2295
15600.	0.2549	16000.	0.2849
16400.	0.3238	16800.	0.3901
17078.	0.5153		

Data set AFXLR3
Specimen no. 8 (129) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 6-30-80
Fatigue Life 23200.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .2752" (C)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0224	8400.	0.0234
8800.	0.0244	9200.	0.0254
9600.	0.0278	10000.	0.0300
10400.	0.0322	10800.	0.0351
11200.	0.0384	11600.	0.0414
12000.	0.0449	12400.	0.0487
12800.	0.0530	13200.	0.0570
13600.	0.0620	14000.	0.0679
14400.	0.0739	14800.	0.0799
15200.	0.0862	15600.	0.0930
16000.	0.0995	16400.	0.1066
16800.	0.1151	17200.	0.1230
17600.	0.1332	18000.	0.1440
18400.	0.1541	18800.	0.1651
19200.	0.1789	19600.	0.1953
20000.	0.2133	20400.	0.2320
20800.	0.2554	21200.	0.2791
21600.	0.3091	22000.	0.3413
22400.	0.3876	22800.	0.4732
23200.	0.5703		

Data set AFXLR3
Specimen no. 21 (131H8)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 7-6-80
Fatigue Life 22406.
Failure load: A)
B)

Initiation Location(s)

Notes:
HA: 0.1206

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0180	6400.	0.0199
6800.	0.0221	7200.	0.0245
7600.	0.0265	8000.	0.0283
8400.	0.0303	8800.	0.0334
9200.	0.0386	9600.	0.0410
10000.	0.0437	10400.	0.0467
10800.	0.0492	11200.	0.0526
11600.	0.0565	12000.	0.0596
12400.	0.0635	12800.	0.0673
13200.	0.0707	13600.	0.0748
14000.	0.0790	14400.	0.0834
14800.	0.0890	15200.	0.0948
15600.	0.1010	16000.	0.1089
16400.	0.1159	16800.	0.1255
17200.	0.1347	17600.	0.1456
18000.	0.1594	18400.	0.1719
18800.	0.1882	19200.	0.2051
19600.	0.2230	20000.	0.2429
20400.	0.2672	20800.	0.2948
21200.	0.3250	21600.	0.3639
22000.	0.4251	22406.	0.6377

Data set AFXLR3
Specimen no. 10 (132) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 7-6-80
Fatigue Life 12000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0153	5200.	0.0181
5600.	0.0219	6000.	0.0264
6400.	0.0329	6800.	0.0389
7200.	0.0462	7600.	0.0559
8000.	0.0669	8400.	0.0858
8800.	0.1046	9200.	0.1217
9600.	0.1425	10000.	0.1663
10400.	0.1973	10800.	0.2310
11200.	0.2725	11600.	0.3269
12000.	0.4085		

Data set AFXLR3
Specimen no. 11 (133) TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 7-5-80
Fatigue Life 30806.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
TB - .1040" (B)
HB - .4605" (B)
HA - .2805" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
11600.	0.0081	12000.	0.0091
12400.	0.0101	12800.	0.0113
13200.	0.0127	13600.	0.0144
14000.	0.0157	14400.	0.0173
14800.	0.0190	15200.	0.0208
15600.	0.0230	16000.	0.0253
16400.	0.0278	16800.	0.0315
17200.	0.0354	17600.	0.0386
18000.	0.0426	18400.	0.0465
18800.	0.0517	19200.	0.0555
19600.	0.0618	20000.	0.0683
20400.	0.0770	20800.	0.0841
21200.	0.0906	21600.	0.0989
22000.	0.1096	22400.	0.1186
22800.	0.1294	23200.	0.1402
23600.	0.1499	24000.	0.1616
24400.	0.1729	24800.	0.1859
25200.	0.1982	25600.	0.2108
26000.	0.2253	26400.	0.2425
26800.	0.2594	27200.	0.2752
27600.	0.2906	28000.	0.3066
28400.	0.3238	28800.	0.3457
29200.	0.3683	29600.	0.3970
30000.	0.4241	30400.	0.4480
30806.	0.4776		

Data set AFXLR3
Specimen no. 17 (134) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 7-5-80
Fatigue Life 28035.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB: 0.2768 CORNER
HA: 0.4115 BORE
TA: 0.0516 BORE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10800.	0.0179	11200.	0.0195
11600.	0.0219	12000.	0.0240
12400.	0.0262	12800.	0.0282
13200.	0.0302	13600.	0.0329
14000.	0.0367	14400.	0.0393
14800.	0.0429	15200.	0.0459
15600.	0.0487	16000.	0.0520
16400.	0.0556	16800.	0.0602
17200.	0.0646	17600.	0.0690
18000.	0.0737	18400.	0.0785
18800.	0.0837	19200.	0.0893
19600.	0.0950	20000.	0.1000
20400.	0.1045	20800.	0.1136
21200.	0.1221	21600.	0.1313
22000.	0.1395	22400.	0.1478
22800.	0.1561	23200.	0.1666
23600.	0.1757	24000.	0.1869
24400.	0.1981	24800.	0.2112
25200.	0.2223	25600.	0.2352
26000.	0.2473	26400.	0.2619
26800.	0.2750	27200.	0.2914
27600.	0.3129	28035.	0.3425

Data set AFXLR3
Specimen no. 15 (134) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date 7-8-80
Fatigue Life 28034.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
16400.	0.0269	16800.	0.0291
17200.	0.0310	17600.	0.0336
18000.	0.0362	18400.	0.0398
18800.	0.0430	19200.	0.0466
19600.	0.0501	20000.	0.0556
20400.	0.0602	20800.	0.0652
21200.	0.0712	21600.	0.0779
22000.	0.0859	22400.	0.0926
22800.	0.1010	23200.	0.1107
23600.	0.1200	24000.	0.1319
24400.	0.1437	24800.	0.1609
25200.	0.1777	25600.	0.1963
26000.	0.2174	26400.	0.2390
26800.	0.2658	27200.	0.3014
27600.	0.3428	28034.	0.4115

Data set AFXLR3
Specimen no. 18 (593)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date
Fatigue Life 22406.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0180	6400.	0.0199
6800.	0.0221	7200.	0.0245
7600.	0.0265	8000.	0.0283
8400.	0.0303	8800.	0.0334
9200.	0.0386	9600.	0.0410
10000.	0.0437	10400.	0.0467
10800.	0.0492	11200.	0.0526
11600.	0.0565	12000.	0.0598
12400.	0.0635	12800.	0.0673
13200.	0.0707	13600.	0.0748
14000.	0.0790	14400.	0.0834
14800.	0.0890	15200.	0.0948
15600.	0.1010	16000.	0.1089
16400.	0.1159	16800.	0.1255
17200.	0.1347	17600.	0.1456
18000.	0.1594	18400.	0.1719
18800.	0.1882	19200.	0.2051
19600.	0.2230	20000.	0.2429
20400.	0.2672	20800.	0.2948
21200.	0.3250	21600.	0.3639
22000.	0.4251	22406.	0.6377

Data set AFXLR3
Specimen no. 20 (594) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI; CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0040	7200.	0.0044
7600.	0.0051	8000.	0.0057
8400.	0.0063	8800.	0.0070
9200.	0.0077	9600.	0.0084
10000.	0.0093	10400.	0.0105
10800.	0.0113	11200.	0.0124
11600.	0.0139	12000.	0.0154
12400.	0.0170	12800.	0.0188
13200.	0.0212	13600.	0.0240
14000.	0.0283	14400.	0.0322
14800.	0.0372	15200.	0.0427
15600.	0.0484	16000.	0.0542

Data set AFXLR3
Specimen no. 21 (594)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 32.0 ksi
Test Date
Fatigue Life 22406.
Failure load: A)
B)

Initiation Location(s)

Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0180	6400.	0.0199
6800.	0.0221	7200.	0.0245
7600.	0.0265	8000.	0.0283
8400.	0.0303	8800.	0.0334
9200.	0.0386	9600.	0.0410
10000.	0.0437	10400.	0.0467
10800.	0.0492	11200.	0.0526
11600.	0.0565	12000.	0.0596
12400.	0.0635	12800.	0.0673
13200.	0.0707	13600.	0.0748
14000.	0.0790	14400.	0.0834
14800.	0.0890	15200.	0.0948
15600.	0.1010	16000.	0.1089
16400.	0.1159	16800.	0.1255
17200.	0.1347	17600.	0.1456
18000.	0.1594	18400.	0.1719
18800.	0.1882	19200.	0.2051
19600.	0.2230	20000.	0.2429
20400.	0.2672	20800.	0.2948
21200.	0.3250	21600.	0.3639
22000.	0.4251	22406.	0.6377

SPECIMEN NOS. 126, 130
DESTROYED IN FIXTURE

Data set AFXMR4
Specimen no. 1 (562) TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0229	4400.	0.0238
4800.	0.0250	5200.	0.0260
5600.	0.0274	6000.	0.0289
6400.	0.0300	6800.	0.0319
7200.	0.0330	7600.	0.0343
8000.	0.0353	8400.	0.0366
8800.	0.0386	9200.	0.0400
9600.	0.0415	10000.	0.0432
10400.	0.0447	10800.	0.0462
11200.	0.0476	11600.	0.0491
12000.	0.0510	12400.	0.0527
12800.	0.0540	13200.	0.0551
13600.	0.0563	14000.	0.0581
14400.	0.0606	14800.	0.0636
15200.	0.0665	15600.	0.0699
16000.	0.0709		

Data set AFXMR4
Specimen no. 2 (563) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 11255.
Failure load: A)
B)

Initiation Location(s)
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Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3600.	0.0059	4000.	0.0130
4400.	0.0158	4800.	0.0196
5200.	0.0237	5600.	0.0262
6000.	0.0314	6400.	0.0367
6800.	0.0433	7200.	0.0509
7600.	0.0580	8000.	0.0682
8400.	0.0783	8800.	0.0936
9200.	0.1168	9600.	0.1414
10000.	0.1749	10400.	0.2141
10800.	0.2679	11255.	0.3526

Data set AFXMR4
Specimen no. 3 (564) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0017	6400.	0.0029
6800.	0.0036	7200.	0.0043
7600.	0.0054	8000.	0.0065
8400.	0.0074	8800.	0.0091
9200.	0.0110	9600.	0.0124
10000.	0.0141	10400.	0.0160
10800.	0.0175	11200.	0.0196
11600.	0.0212	12000.	0.0233
12400.	0.0264	12800.	0.0297
13200.	0.0324	13600.	0.0364
14000.	0.0422	14400.	0.0490
14800.	0.0562	15200.	0.0610
15600.	0.0674	16000.	0.0764

Data set AFXMR4
Specimen no. 4 (565) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7200.	0.0223	7600.	0.0241
8000.	0.0258	8400.	0.0273
8800.	0.0291	9200.	0.0309
9600.	0.0330	10000.	0.0351
10400.	0.0369	10800.	0.0392
11200.	0.0417	11600.	0.0439
12000.	0.0464	12400.	0.0489
12800.	0.0516	13200.	0.0535
13600.	0.0547	14000.	0.0574
14400.	0.0606	14800.	0.0647
15200.	0.0688	15600.	0.0731
16000.	0.0777		

Data set AFXMR4
Specimen no. 5 (566) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0239	4400.	0.0250
4800.	0.0262	5200.	0.0274
5600.	0.0289	6000.	0.0301
6400.	0.0315	6800.	0.0329
7200.	0.0345	7600.	0.0362
8000.	0.0378	8400.	0.0404
8800.	0.0437	9200.	0.0472
9600.	0.0505	10000.	0.0540
10400.	0.0597	10800.	0.0660
11200.	0.0718	11600.	0.0792
12000.	0.0859	12400.	0.0969
12800.	0.1051	13200.	0.1164
13600.	0.1279	14000.	0.1441
14400.	0.1635	14800.	0.1871
15200.	0.2172	15600.	0.2555
16000.	0.3008		

Data set AFXMR4
Specimen no. 6 (567) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 12806.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0217	4800.	0.0265
5200.	0.0329	5600.	0.0374
6000.	0.0440	6400.	0.0502
6800.	0.0545	7200.	0.0609
7600.	0.0713	8000.	0.0775
8400.	0.0905	8800.	0.1007
9200.	0.1149	9600.	0.1316
10000.	0.1520	10400.	0.1727
10800.	0.2020	11200.	0.2371
11600.	0.2769	12000.	0.3587
12400.	0.4288	12806.	0.5372

Data set AFXMR4
Specimen no. 7 (568) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0041	7200.	0.0051
7600.	0.0061	8000.	0.0074
8400.	0.0088	8800.	0.0103
9200.	0.0118	9600.	0.0137
10000.	0.0155	10400.	0.0172
10800.	0.0188	11200.	0.0206
11600.	0.0220	12000.	0.0241
12400.	0.0261	12800.	0.0282
13200.	0.0303	13600.	0.0331
14000.	0.0353	14400.	0.0383
14800.	0.0416	15200.	0.0453
15600.	0.0490	16000.	0.0504

Data set AFXMR4
Specimen no. 8 (569) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0312	5600.	0.0339
6000.	0.0364	6400.	0.0403
6800.	0.0430	7200.	0.0469
7600.	0.0513	8000.	0.0580
8400.	0.0644	8800.	0.0725
9200.	0.0806	9600.	0.0893
10000.	0.0971	10400.	0.1088
10800.	0.1188	11200.	0.1319
11600.	0.1443	12000.	0.1588
12400.	0.1736	12800.	0.1938
13200.	0.2165	13600.	0.2424
14000.	0.2727	14400.	0.3103
14800.	0.3653	15200.	0.4631
15600.	0.5287	16000.	0.5572

Data set AFXMR4
Specimen no. 9 (570) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 6006.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0181	2800.	0.0258
3200.	0.0383	3600.	0.0581
4000.	0.0843	4400.	0.1142
4800.	0.1509	5200.	0.1965
5600.	0.2627	6000.	0.3765
6006.	0.3786		

Data set AFXMR4
Specimen no. 10 (561)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 16,000
Failure load: A)
B)

Initiation Location(s)
—
Notes:

NO CRACKS

Data set AFXMR3
Specimen no. 1 (/35HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 Ksi
Test Date 7-8-80
Fatigue Life 15206.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
TA: 0.1898 CORNER
HB: 0.0600 CORNER
TB: 0.0647 BORE
HOLES WERE DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0097	2800.	0.0133
3200.	0.0164	3600.	0.0187
4000.	0.0218	4400.	0.0251
4800.	0.0283	5200.	0.0322
5600.	0.0355	6000.	0.0400
6400.	0.0434	6800.	0.0471
7200.	0.0502	7600.	0.0544
8000.	0.0598	8400.	0.0653
8800.	0.0705	9200.	0.0756
9600.	0.0815	10000.	0.0875
10400.	0.0949	10800.	0.1043
11200.	0.1141	11600.	0.1247
12000.	0.1370	12400.	0.1524
12800.	0.1714	13200.	0.1913
13600.	0.2125	14000.	0.2394
14400.	0.2702	14800.	0.3187
15206.	0.4139		

Data set AFXMR3
Specimen no. 2 (/36TA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 Ksi
Test Date 7-8-80
Fatigue Life 18406.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
TB: 0.0502 CORNER
HB: 0.1181 BORE
HA: 0.1620 BORE
HOLES WERE DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0071	5600.	0.0095
6000.	0.0122	6400.	0.0144
6800.	0.0168	7200.	0.0196
7600.	0.0217	8000.	0.0243
8400.	0.0265	8800.	0.0282
9200.	0.0315	9600.	0.0342
10000.	0.0389	10400.	0.0423
10800.	0.0469	11200.	0.0515
11600.	0.0553	12000.	0.0615
12400.	0.0679	12800.	0.0763
13200.	0.0853	13600.	0.0956
14000.	0.1057	14400.	0.1170
14800.	0.1309	15200.	0.1452
15600.	0.1616	16000.	0.1845
16400.	0.2087	16800.	0.2360
17200.	0.2705	17600.	0.3203
18000.	0.3794	18406.	0.4334

Data set AFXMR3
Specimen no. 3 (/37 HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date 7-10-80
Fatigue Life 10835.
Failure load: A)
B)

Initiation Location(s)
MULTI-BORE
Notes:
HOLES DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0098	5600.	0.0157
6000.	0.0221	6400.	0.0289
6800.	0.0358	7200.	0.0429
7600.	0.0540	8000.	0.0659
8400.	0.0825	8800.	0.1050
9200.	0.1318	9600.	0.1669
10000.	0.2055	10400.	0.2579
10835.	0.3330		

Data set AFXMR3
Specimen no. 4 (/38 HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date 7-10-80
Fatigue Life 13206.
Failure load: A)
B)

Initiation Location(s)
MULTI-BORE
Notes:
HOLES DEBURRED
TA: 0.1089 CORNER
TB: 0.1887 BORE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0086	4800.	0.0130
5200.	0.0202	5600.	0.0275
6000.	0.0364	6400.	0.0445
6800.	0.0493	7200.	0.0572
7600.	0.0668	8000.	0.0796
8400.	0.0940	8800.	0.1098
9200.	0.1299	9600.	0.1540
10000.	0.1791	10400.	0.2129
10800.	0.2560	11200.	0.3228
11600.	0.3813	12000.	0.4127
12400.	0.4505	12800.	0.4996
13206.	0.5297		

Data set AFXMR3
Specimen no. 5 (596HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0288	6800.	0.0309
7200.	0.0325	7600.	0.0338
8000.	0.0363	8400.	0.0383
8800.	0.0407	9200.	0.0430
9600.	0.0445	10000.	0.0458
10400.	0.0475	10800.	0.0493
11200.	0.0506	11600.	0.0530
12000.	0.0554	12400.	0.0578
12800.	0.0595	13200.	0.0627
13600.	0.0662	14000.	0.0697
14400.	0.0737	14800.	0.0776
15200.	0.0824	15600.	0.0863
16000.	0.0900		

Data set AFXMR3
Specimen no. 6 (597HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
-
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0243	6000.	0.0275
6400.	0.0301	6800.	0.0332
7200.	0.0373	7600.	0.0418
8000.	0.0459	8400.	0.0503
8800.	0.0537	9200.	0.0582
9600.	0.0636	10000.	0.0691
10400.	0.0763	10800.	0.0814
11200.	0.0914	11600.	0.0993
12000.	0.1090	12400.	0.1202
12800.	0.1319	13200.	0.1464
13600.	0.1611	14000.	0.1786
14400.	0.1973	14800.	0.2193
15200.	0.2427	15600.	0.2732
16000.	0.3044		

Data set AFXMR3
Specimen no. 7 (598HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date
Fatigue Life 13206.
Failure load: A)
B)

Initiation Location(s)
MULTI-BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0167	8400.	0.0236
8800.	0.0307	9200.	0.0384
9600.	0.0510	10000.	0.0648
10400.	0.0832	10800.	0.1034
11200.	0.1235	11600.	0.1526
12000.	0.1881	12400.	0.2314
12800.	0.2893	13200.	0.3987
13206.	0.4763		

Data set AFXMR3
Specimen no. 8 (599HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10000.	0.0151	10400.	0.0168
10800.	0.0196	11200.	0.0254
11600.	0.0254	12000.	0.0300
12400.	0.0338	12800.	0.0375
13200.	0.0417	13600.	0.0466
14000.	0.0543	14400.	0.0621
14800.	0.0706	15200.	0.0779
15600.	0.0889	16000.	0.0998

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMR3	5200.	0.0200	5600.	0.0291
Specimen no. 9 (600HB)	6000.	0.0378	6400.	0.0498
Material 7475-T7351	6800.	0.0640	7200.	0.0778
Spectrum F-16 400 Hr.	7600.	0.0953	8000.	0.1141
Load Transfer 15%	8400.	0.1379	8800.	0.1661
Fast. type MS-90353 (3/16)	9200.	0.1993	9600.	0.2448
Stress Level 34.0 ksi	10000.	0.3218	10400.	0.5140
Test Date				
Fatigue Life 10400.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMC4	12400.	0.0131	12800.	0.0145
Specimen no. 1 (457) HA	13200.	0.0161	13600.	0.0186
Material 7475-T7351	14000.	0.0206	14400.	0.0231
Spectrum F-16 400 Hr.	14800.	0.0253	15200.	0.0291
Load Transfer 15%	15600.	0.0333	16000.	0.0346

Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-7-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI-BORE, FAYING SURFACE
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMC4	10000.	0.0155	10400.	0.0164
Specimen no. 2 (458TB)	10800.	0.0185	11200.	0.0205
Material 7475-T7351	11600.	0.0225	12000.	0.0250
Spectrum F-16 400 Hr.	12400.	0.0284	12800.	0.0322
Load Transfer 15%	13200.	0.0360	13600.	0.0395
Fast. type NAS 1580 (1'4)	14000.	0.0434	14400.	0.0476
Stress Level 34.0 Ksi	14800.	0.0524	15200.	0.0588
Test Date 4-7-81	15600.	0.0633	16000.	0.0673

Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Data set AFXMC4
Specimen no. 3 (460HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-9-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0080	6000.	0.0094
6400.	0.0110	6800.	0.0130
7200.	0.0151	7600.	0.0174
8000.	0.0197	8400.	0.0226
8800.	0.0238	9200.	0.0265
9600.	0.0297	10000.	0.0324
10400.	0.0354	10800.	0.0389
11200.	0.0432	11600.	0.0476
12000.	0.0528	12400.	0.0575
12800.	0.0634	13200.	0.0695
13600.	0.0759	14000.	0.0826
14400.	0.0883	14800.	0.0940
15200.	0.1000	15600.	0.1060
16000.	0.1112		

Data set AFXMC4
Specimen no. 4 (459HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-9-81
Fatigue Life 10007.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3600.	0.0159	4000.	0.0217
4400.	0.0281	4800.	0.0354
5200.	0.0467	5600.	0.0586
6000.	0.0703	6400.	0.0841
6800.	0.0983	7200.	0.1138
7600.	0.1312	8000.	0.1501
8400.	0.1770	8800.	0.2100
9200.	0.2642	9600.	0.3118
10000.	0.3963	10007.	0.4019

Data set AFXMC4
Specimen no. 5 (461 HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-9-81
Fatigue Life 15606.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0128	7200.	0.0160
7600.	0.0190	8000.	0.0227
8400.	0.0278	8800.	0.0324
9200.	0.0389	9600.	0.0467
10000.	0.0553	10400.	0.0626
10800.	0.0730	11200.	0.0834
11600.	0.0940	12000.	0.1045
12400.	0.1185	12800.	0.1345
13200.	0.1481	13600.	0.1632
14000.	0.1813	14400.	0.2052
14800.	0.2341	15200.	0.2748
15606.	0.3500		

Data set AFXMC4
Specimen no. 6 (462 HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-9-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10400.	0.0152	10800.	0.0195
11200.	0.0236	11600.	0.0297
12000.	0.0364	12400.	0.0428
12800.	0.0512	13200.	0.0579
13600.	0.0662	14000.	0.0743
14400.	0.0845	14800.	0.0926
15200.	0.1034	15600.	0.1164
16000.	0.1294		

Data set AFXMC4
Specimen no. 7 (463 TA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 4-9-81
Fatigue Life 11206.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0152	5200.	0.0187
5600.	0.0230	6000.	0.0283
6400.	0.0356	6800.	0.0475
7200.	0.0592	7600.	0.0723
8000.	0.0909	8400.	0.1117
8800.	0.1316	9200.	0.1519
9600.	0.1764	10000.	0.2052
10400.	0.2398	10800.	0.2935
11200.	0.3565	11206.	0.3918

Data set AFXMC4
Specimen no. 8 (466 HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 4-14-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S. -B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0047	5200.	0.0053
5600.	0.0058	6000.	0.0064
6400.	0.0072	6800.	0.0080
7200.	0.0088	7600.	0.0094
8000.	0.0102	8400.	0.0110
8800.	0.0115	9200.	0.0123
9600.	0.0136	10000.	0.0149
10400.	0.0160	10800.	0.0173
11200.	0.0190	11600.	0.0208
12000.	0.0219	12400.	0.0241
12800.	0.0261	13200.	0.0278
13600.	0.0296	14000.	0.0314
14400.	0.0335	14800.	0.0355
15200.	0.0379	15600.	0.0400
16000.	0.0414		

Data set AFXMC4
Specimen no. 9 (465 HE)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-14-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3600.	0.0037	4000.	0.0040
4400.	0.0043	4800.	0.0047
5200.	0.0053	5600.	0.0058
6000.	0.0063	6400.	0.0068
6800.	0.0076	7200.	0.0087
7600.	0.0105	8000.	0.0121
8400.	0.0144	8800.	0.0170
9200.	0.0198	9600.	0.0223
10000.	0.0248	10400.	0.0294
10800.	0.0322	11200.	0.0385
11600.	0.0445	12000.	0.0512
12400.	0.0571	12800.	0.0634
13200.	0.0704	13600.	0.0771
14000.	0.0848	14400.	0.0921
14800.	0.0996	15200.	0.1079
15600.	0.1168	16000.	0.1239

Data set AFXMC4
Specimen no. 10 (464 HE)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-14-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0166	8400.	0.0181
8800.	0.0201	9200.	0.0217
9600.	0.0231	10000.	0.0251
10400.	0.0274	10800.	0.0294
11200.	0.0322	11600.	0.0341
12000.	0.0376	12400.	0.0407
12800.	0.0449	13200.	0.0482
13600.	0.0520	14000.	0.0553
14400.	0.0592	14800.	0.0626
15200.	0.0676	15600.	0.0732
16000.	0.0783		

Data Set AFXMP4 No Crack
Specimen No. 168
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fastener Type NAS 6204 (1/4)
Stress Level 34.0 Ksi
Test Date 2-16-80
Fatigue Life 16000

DEBURRED HOLES

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMP4	7600.	0.0083	8000.	0.0095
Specimen no. 1 (169)B	8400.	0.0117	8800.	0.0134
Material 7475-T7351	9200.	0.0155	9600.	0.0180
Spectrum F-16 400 Hr.	10000.	0.0202	10400.	0.0225
Load Transfer 15%	10800.	0.0247	11200.	0.0279
Fast. type NAS 6204 (1/4)	11600.	0.0317	12000.	0.0357
Stress Level 34.0 ksi	12400.	0.0397	12800.	0.0439
Test Date 2-16-80	13200.	0.0479	13600.	0.0520
Fatigue Life 16000.	14000.	0.0558	14400.	0.0589
Failure load: A)	14800.	0.0648	15200.	0.0709
B)	15600.	0.0747	16000.	0.0795

Initiation Location(s)
BORE, MULTI
Notes:
A: 0.0286 FAYING SURFACE
DEBURRED HOLES

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMP4	8800.	0.0147	9200.	0.0160
Specimen no. 2 (170) B1	9600.	0.0177	10000.	0.0197
Material 7475-T7351	10400.	0.0217	10800.	0.0242
Spectrum F-16 400 Hr.	11200.	0.0269	11600.	0.0296
Load Transfer 15%	12000.	0.0322	12400.	0.0352
Fast. type NAS 6204 (1/4)	12800.	0.0382	13200.	0.0421
Stress Level 34.0 Ksi	13600.	0.0460	14000.	0.0492
Test Date 2-16-80	14400.	0.0525	14800.	0.0556
Fatigue Life 16000.	15200.	0.0596	15600.	0.0654
Failure load: A)	16000.	0.0683		
B)				

Initiation Location(s)
CORNER
Notes:
EZ: 0.0462 CORNER
DEBURRED HOLES

Data Set AFXMP4 NO CRACK
Specimen No. 171
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fastener Type NAS 6204 (1/4)
Stress Level 34.0 Ksi
Test Date 2-16-80
Fatigue Life 16000

DEBURRED HOLES

Data set AFXMP4
Specimen no. 3 (176)B1
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 34.0 ksi
Test Date 2-16-80
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0050	8400.	0.0059
8800.	0.0071	9200.	0.0086
9600.	0.0103	10000.	0.0122
10400.	0.0140	10800.	0.0158
11200.	0.0179	11600.	0.0208
12000.	0.0237	12400.	0.0267
12800.	0.0294	13200.	0.0322
13600.	0.0355	14000.	0.0384
14400.	0.0410	14800.	0.0437
15200.	0.0467	15600.	0.0497
16000.	0.0514		

Initiation Location(s)
CORNER
Notes:
DEBURRED HOLES
A2: 0.0206 BORE

Data set AFXMP4
Specimen no. 4 (177)A1
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 34.0 ksi
Test Date 2-16-80
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0102	7200.	0.0118
7600.	0.0137	8000.	0.0157
8400.	0.0180	8800.	0.0202
9200.	0.0222	9600.	0.0248
10000.	0.0273	10400.	0.0299
10800.	0.0318	11200.	0.0345
11600.	0.0365	12000.	0.0413
12400.	0.0453	12800.	0.0481
13200.	0.0523	13600.	0.0549
14000.	0.0589	14400.	0.0640
14800.	0.0689	15200.	0.0747
15600.	0.0803	16000.	0.0865

Initiation Location(s)
CORNER
Notes:
DEBURRED HOLES

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMP4	11200.	0.0216	11600.	0.0256
Specimen no. 5 (178)B2	12000.	0.0291	12400.	0.0331
Material 7475-T7351	12800.	0.0370	13200.	0.0410
Spectrum F-16 400 Hr.	13600.	0.0446	14000.	0.0484
Load Transfer 15%	14400.	0.0527	14800.	0.0571
Fast. type NAS 6204 (1/4)	15200.	0.0611	15600.	0.0658
Stress Level 34.0 ksi	16000.	0.0705		
Test Date 2-16-80				
Fatigue Life 16000.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
DEBURRED HOLES

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFXMP4	11600.	0.0110	12000.	0.0126
Specimen no. 6 (179)A1	12400.	0.0146	12800.	0.0168
Material 7475-T7351	13200.	0.0198	13600.	0.0226
Spectrum F-16 400 Hr.	14000.	0.0260	14400.	0.0289
Load Transfer 15%	14800.	0.0313	15200.	0.0345
Fast. type NAS 6204 (1/4)	15600.	0.0385	16000.	0.0420
Stress Level 34.0 ksi				
Test Date 2-19-80				
Fatigue Life 16000.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:
DEBURRED HOLES

Data set AFXMP4
Specimen no. 7 (180) B1
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 34.0 Ksi
Test Date 2-19-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED HOLES

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0078	7200.	0.0094
7600.	0.0127	8000.	0.0159
8400.	0.0190	8800.	0.0224
9200.	0.0258	9600.	0.0299
10000.	0.0352	10400.	0.0399
10800.	0.0450	11200.	0.0492
11600.	0.0553	12000.	0.0612
12400.	0.0669	12800.	0.0739
13200.	0.0800	13600.	0.0882
14000.	0.0941	14400.	0.1013
14800.	0.1085	15200.	0.1155
15600.	0.1232	16000.	0.1316

Data set AFXMP4
Specimen no. 8 (181)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 34.0 Ksi
Test Date 2-19-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED HOLES

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12000.	0.0099	12400.	0.0109
12800.	0.0126	13200.	0.0140
13600.	0.0157	14000.	0.0175
14400.	0.0191	14800.	0.0214
15200.	0.0235	15600.	0.0263
16000.	0.0283		

Data set AFXHR4
Specimen no. 1 (571) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 9871.
Failure load: A)
B)

Initiation Location(s)
(C.S. – B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0125	1600.	0.0141
2000.	0.0152	2400.	0.0177
2800.	0.0213	3200.	0.0246
3600.	0.0281	4000.	0.0323
4400.	0.0437	4800.	0.0501
5200.	0.0577	5600.	0.0655
6000.	0.0733	6400.	0.0843
6800.	0.0962	7200.	0.1080
7600.	0.1230	8000.	0.1394
8400.	0.1659	8800.	0.2021
9200.	0.2765	9600.	0.4164
9871.	0.4681		

Data set AFXHR4
Specimen no. 2 (572) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 13073.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0158	5200.	0.0216
5600.	0.0275	6000.	0.0335
6400.	0.0402	6800.	0.0476
7200.	0.0532	7600.	0.0619
8000.	0.0692	8400.	0.0735
8800.	0.0844	9200.	0.0931
9600.	0.1034	10000.	0.1156
10400.	0.1268	10800.	0.1416
11200.	0.1587	11600.	0.1826
12000.	0.2172	12400.	0.2670
13073.	0.3527		

Data set AFXHR4
Specimen no. 3 (573) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 12806.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0140	5200.	0.0157
5600.	0.0185	6000.	0.0228
6400.	0.0262	6800.	0.0298
7200.	0.0335	7600.	0.0371
8000.	0.0423	8400.	0.0470
8800.	0.0523	9200.	0.0578
9600.	0.0665	10000.	0.0772
10400.	0.0905	10800.	0.1063
11200.	0.1268	11600.	0.1472
12000.	0.1762	12400.	0.2163
12806.	0.3087		

Initiation Location(s)
CORNER, BORE
Notes:

Data set AFXHR4
Specimen no. 4 (574) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 6900.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0084	2800.	0.0171
3200.	0.0243	3600.	0.0348
4000.	0.0474	4400.	0.0687
4800.	0.0902	5200.	0.1093
5600.	0.1340	6000.	0.1627
6400.	0.2040	6800.	0.2524
6900.	0.2664		

Initiation Location(s)
CORNER
Notes:

Data set AFXHR4
Specimen no. 5 (575) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE, MULTI
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0093	6800.	0.0116
7200.	0.0136	7600.	0.0172
8000.	0.0190	8400.	0.0224
8800.	0.0260	9200.	0.0300
9600.	0.0340	10000.	0.0388
10400.	0.0433	10800.	0.0489
11200.	0.0558	11600.	0.0618
12000.	0.0713	12400.	0.0788
12800.	0.0879	13200.	0.0976
13600.	0.1105	14000.	0.1261
14400.	0.1442	14800.	0.1601
15200.	0.1852	15600.	0.2164
16000.	0.2543		

Data set AFXHR4
Specimen no. 6 (576) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 8035.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0339	4400.	0.0452
4800.	0.0568	5200.	0.0694
5600.	0.0833	6000.	0.1006
6400.	0.1210	6800.	0.1468
7200.	0.1836	7600.	0.2355
8000.	0.2866	8035.	0.3091

Data set AFXHR4
Specimen no. 7 (577) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 4807.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0252	2400.	0.0420
2800.	0.0581	3200.	0.0771
3600.	0.1001	4000.	0.1342
4400.	0.1843	4800.	0.2630
4807.	0.2740		

Data set AFXHR4
Specimen no. 8 (578) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 5206.
Failure load: A)
B)

Initiation Location(s)
BORE, COUNTERSINK AREA
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0187	2400.	0.0375
2800.	0.0471	3200.	0.0594
3600.	0.0810	4000.	0.1115
4400.	0.1504	4800.	0.2085
5200.	0.3087	5206.	0.3254

Data set AFXHR4
Specimen no. 9 (579) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 12435.
Failure load: A)
B)

Initiation Location(s)
BORE, CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0181	6400.	0.0231
6800.	0.0292	7200.	0.0334
7600.	0.0386	8000.	0.0471
8400.	0.0588	8800.	0.0711
9200.	0.0784	9600.	0.0893
10000.	0.1011	10400.	0.1139
10800.	0.1281	11200.	0.1427
11600.	0.1698	12000.	0.1957
12400.	0.2407	12435.	0.3292

Data set AFXHR4
Specimen no. 10 (580) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 7075.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1600.	0.0155	2000.	0.0216
2400.	0.0276	2800.	0.0351
3200.	0.0439	3600.	0.0570
4000.	0.0721	4400.	0.0940
4800.	0.1216	5200.	0.1645
5600.	0.1939	6000.	0.2736
6400.	0.3429	6800.	0.4671
7075.	0.5777		

Data set AFXHR3
Specimen no. 1 (601) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 6835.
Failure load: A)
B)

Initiation Location(s)
MULTI : CORNER, BORE
Notes:

Time	Crack Size	Time	Crack Size
3600.	0.0309	4000.	0.0443
4400.	0.0614	4800.	0.0840
5200.	0.1099	5600.	0.1401
6000.	0.1763	6400.	0.2272
6835.	0.3163		

Data set AFXHR3
Specimen no. 2 (602) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 9607.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0138	3600.	0.0169
4000.	0.0198	4400.	0.0250
4800.	0.0313	5200.	0.0385
5600.	0.0496	6000.	0.0599
6400.	0.0735	6800.	0.0902
7200.	0.1085	7600.	0.1284
8000.	0.1530	8400.	0.1797
8800.	0.2163	9200.	0.2597
9607.	0.3275		

Data set AFXHR3
Specimen no. 3 (603) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 6748.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0164	2400.	0.0291
2800.	0.0438	3200.	0.0576
3600.	0.0755	4000.	0.0979
4400.	0.1202	4800.	0.1467
5200.	0.1858	5600.	0.2313
6000.	0.3146	6400.	0.4452
6748.	0.5053		

Data set AFXHR3
Specimen no. 4 (604) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 8806.
Failure load: A)
B)

Initiation Location(s)
MULTI (C.S.-B), BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0088	3600.	0.0166
4000.	0.0235	4400.	0.0328
4800.	0.0429	5200.	0.0523
5600.	0.0642	6000.	0.0768
6400.	0.0949	6800.	0.1182
7200.	0.1486	7600.	0.1893
8000.	0.2448	8400.	0.3178
8800.	0.3387	8806.	0.3395

Data set AFXHR3
Specimen no. 5 (605) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 11663.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2800.	0.0076	3200.	0.0090
3600.	0.0104	4000.	0.0120
4400.	0.0153	4800.	0.0196
5200.	0.0255	5600.	0.0341
6000.	0.0441	6400.	0.0537
6800.	0.0667	7200.	0.0828
7600.	0.1024	8000.	0.1206
8400.	0.1438	8800.	0.1673
9200.	0.1936	9600.	0.2244
10000.	0.2649	10400.	0.3167
10800.	0.4002	11200.	0.4887
11663.	0.6307		

Data set AFXHR3
Specimen no. 6 (606) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 5373.
Failure load: A)
B)

Initiation Location(s)
MULTI. BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
400.	0.0139	800.	0.0171
1200.	0.0211	1600.	0.0244
2000.	0.0308	2400.	0.0400
2800.	0.0513	3200.	0.0729
3600.	0.1033	4000.	0.1462
4400.	0.2029	4800.	0.3064
5200.	0.4894	5373.	0.5573

Data set AFXHR3
Specimen no. 7 (607) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 9950.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0226	2400.	0.0288
2800.	0.0353	3200.	0.0419
3600.	0.0490	4000.	0.0573
4400.	0.0663	4800.	0.0777
5200.	0.0910	5600.	0.1035
6000.	0.1190	6400.	0.1383
6800.	0.1588	7200.	0.1836
7600.	0.2158	8000.	0.2454
8400.	0.2743	8800.	0.3044
9200.	0.3312	9600.	0.3830
9950.	0.4057		

Initiation Location(s)
BORE
Notes:

Data set AFXHR3
Specimen no. 8 (608) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 13550.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0269	6000.	0.0311
6400.	0.0330	6800.	0.0368
7200.	0.0388	7600.	0.0417
8000.	0.0456	8400.	0.0508
8800.	0.0562	9200.	0.0618
9600.	0.0674	10000.	0.0748
10400.	0.0841	10800.	0.0953
11200.	0.1115	11600.	0.1307
12000.	0.1573	12400.	0.1928
12800.	0.2525	13200.	0.3589
13550.	0.3937		

Initiation Location(s)
CORNER
Notes:

Data set AFXHR3
Specimen no. 9 (609) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 7206.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0210	2800.	0.0260
3200.	0.0301	3600.	0.0407
4000.	0.0549	4400.	0.0660
4800.	0.0857	5200.	0.1086
5600.	0.1343	6000.	0.1668
6400.	0.2101	6800.	0.2734
7200.	0.4405	7206.	0.4452

Data set AFXHR3
Specimen no. 10 (610) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 9548.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2800.	0.0119	3200.	0.0163
3600.	0.0218	4000.	0.0277
4400.	0.0352	4800.	0.0444
5200.	0.0539	5600.	0.0676
6000.	0.0789	6400.	0.0934
6800.	0.1110	7200.	0.1303
7600.	0.1534	8000.	0.1785
8400.	0.2138	8800.	0.2822
9200.	0.4045	9548.	0.4873

Data set AFXHP4
Specimen no. 1 (182) A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-19-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10400.	0.0237	10800.	0.0303
11200.	0.0388	11600.	0.0482
12000.	0.0627	12400.	0.0758
12800.	0.0935	13200.	0.1051
13600.	0.1175	14000.	0.1571
14400.	0.2131	14800.	0.2290
15200.	0.2522	15600.	0.2823
16000.	0.3093		

Data set AFXHP4
Specimen no. 2 (183)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-19-80
Fatigue Life 9635.
Failure load: A)
B)

Initiation Location(s)
BORE-MULTI
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0206	4800.	0.0290
5200.	0.0389	5600.	0.0500
6000.	0.0595	6400.	0.0674
6800.	0.0787	7200.	0.0927
7600.	0.1089	8000.	0.1295
8400.	0.1586	8800.	0.1915
9200.	0.2295	9600.	0.2580
9635.	0.2950		

Data set AFXHP4
Specimen no. 3 (184) B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 Ksi
Test Date 2-19-80
Fatigue Life 8592.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2800.	0.0383	3200.	0.0474
3600.	0.0586	4000.	0.0661
4400.	0.0742	4800.	0.0839
5200.	0.0954	5600.	0.1078
6000.	0.1330	6400.	0.1685
6800.	0.1946	7200.	0.2277
7600.	0.2430	8000.	0.2707
8400.	0.2972	8592.	0.3111

Data set AFXHP4
Specimen no. 4 (185) A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 Ksi
Test Date 2-19-80
Fatigue Life 8400.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
400.	0.0068	800.	0.0133
1200.	0.0202	1600.	0.0259
2000.	0.0316	2400.	0.0394
2800.	0.0479	3200.	0.0575
3600.	0.0655	4000.	0.0773
4400.	0.0890	4800.	0.1069
5200.	0.1222	5600.	0.1432
6000.	0.1682	6400.	0.2037
6800.	0.2639	7200.	0.2872
7600.	0.3212	8000.	0.3459
8400.	0.3894		

Data set AFXHP4
Specimen no. 5 (186)A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-19-80
Fatigue Life 10000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0077	2800.	0.0105
3200.	0.0126	3600.	0.0172
4000.	0.0234	4400.	0.0297
4800.	0.0380	5200.	0.0462
5600.	0.0539	6000.	0.0628
6400.	0.0722	6800.	0.0809
7200.	0.0912	7600.	0.1014
8000.	0.1140	8400.	0.1312
8800.	0.1463	9200.	0.1639
9600.	0.1962	10000.	0.2417

Data set AFXHP4
Specimen no. 6 (187)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-23-80
Fatigue Life 8007.
Failure load: A)
B)

Initiation Location(s)
MULTI: CORNER, BORE
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0139	1600.	0.0155
2000.	0.0174	2400.	0.0203
2800.	0.0234	3200.	0.0279
3600.	0.0331	4000.	0.0401
4400.	0.0497	4800.	0.0610
5200.	0.0741	5600.	0.0850
6000.	0.0987	6400.	0.1136
6800.	0.1304	7200.	0.1550
7600.	0.1899	8000.	0.2510
8007.	0.2658		

Data set AFXHP4
Specimen no. 7 (1BB)A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-23-80
Fatigue Life 8007.
Failure load: A)
B)

Initiation Location(s)
BORE-MULTI
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0237	2400.	0.0308
2800.	0.0366	3200.	0.0418
3600.	0.0481	4000.	0.0558
4400.	0.0624	4800.	0.0715
5200.	0.0831	5600.	0.0934
6000.	0.1073	6400.	0.1244
6800.	0.1558	7200.	0.1766
7600.	0.2083	8000.	0.2585
8007.	0.3444		

Data set AFXHP4
Specimen no. 8 (1B9)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-23-80
Fatigue Life 9235.
Failure load: A)
B)

Initiation Location(s)
~
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0122	3600.	0.0149
4000.	0.0177	4400.	0.0212
4800.	0.0287	5200.	0.0382
5600.	0.0467	6000.	0.0568
6400.	0.0675	6800.	0.0779
7200.	0.0881	7600.	0.1054
8000.	0.1258	8400.	0.1515
8800.	0.1927	9200.	0.2438
9235.	0.2577		

Data set AFXHP4
Specimen no. 9 (190) A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 6204 (1/4)
Stress Level 40.8 ksi
Test Date 2-23-80
Fatigue Life 8006.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0260	4800.	0.0394
5200.	0.0650	5600.	0.0817
6000.	0.1004	6400.	0.1183
6800.	0.1432	7200.	0.1703
7600.	0.2273	8000.	0.3007
8006.	0.3158		

Data set AFYLR4
Specimen no. 1 (139) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 7-15-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:
TA-.1939" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
15200.	0.0236	15600.	0.0264
16000.	0.0290	16400.	0.0310
16800.	0.0333	17200.	0.0354
17600.	0.0388	18000.	0.0415
18400.	0.0447	18800.	0.0468
19200.	0.0489	19600.	0.0525
20000.	0.0546	20400.	0.0574
20800.	0.0608	21200.	0.0644
21600.	0.0681	22000.	0.0744
22400.	0.0781	22800.	0.0831
23200.	0.0876	23600.	0.0912
24000.	0.0957	24400.	0.0987
24800.	0.1034	25200.	0.1095
25600.	0.1146	26000.	0.1199
26400.	0.1222	26800.	0.1289
27200.	0.1345	27600.	0.1412
28000.	0.1488	28400.	0.1565
28800.	0.1654	29200.	0.1721
29600.	0.1805	30000.	0.1894
30400.	0.1994	30800.	0.2079
31200.	0.2170	31600.	0.2305
32000.	0.2456		

Data set AFYLR4
Specimen no. 2 (140) TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 7-15-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA-.0468" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
15600.	0.0739	16000.	0.0743
16400.	0.0747	16800.	0.0750
17200.	0.0755	17600.	0.0760
18000.	0.0764	18400.	0.0768
18800.	0.0773	19200.	0.0778
19600.	0.0783	20000.	0.0787
20400.	0.0794	20800.	0.0802
21200.	0.0809	21600.	0.0817
22000.	0.0824	22400.	0.0832
22800.	0.0840	23200.	0.0849
23600.	0.0856	24000.	0.0867
24400.	0.0878	24800.	0.0893
25200.	0.0905	25600.	0.0918
26000.	0.0930	26400.	0.0941
26800.	0.0958	27200.	0.0974
27600.	0.0987	28000.	0.0998
28400.	0.1016	28800.	0.1031
29200.	0.1043	29600.	0.1064
30000.	0.1083	30400.	0.1096
30800.	0.1111	31200.	0.1130
31600.	0.1154	32000.	0.1182

Data set AFYLR4
Specimen no. 3 (141) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 7-15-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:

HA-.0520" (F.S.)
TA-0.0460 (FS)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
19200.	0.0299	19600.	0.0303
20000.	0.0308	20400.	0.0315
20800.	0.0322	21200.	0.0327
21600.	0.0336	22000.	0.0344
22400.	0.0352	22800.	0.0361
23200.	0.0374	23600.	0.0382
24000.	0.0391	24400.	0.0399
24800.	0.0409	25200.	0.0419
25600.	0.0430	26000.	0.0442
26400.	0.0457	26800.	0.0471
27200.	0.0487	27600.	0.0502
28000.	0.0514	28400.	0.0530
28800.	0.0549	29200.	0.0569
29600.	0.0585	30000.	0.0600
30400.	0.0614	30800.	0.0630
31200.	0.0650	31600.	0.0675
32000.	0.0693		

Data set AFYLR4
Specimen no. 4 (142) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 7-15-80
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
MULTI: COUNTERSINK AREA, CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
15600.	0.0203	16000.	0.0212
16400.	0.0221	16800.	0.0231
17200.	0.0239	17600.	0.0247
18000.	0.0257	18400.	0.0267
18800.	0.0274	19200.	0.0283
19600.	0.0292	20000.	0.0302
20400.	0.0314	20800.	0.0326
21200.	0.0334	21600.	0.0343
22000.	0.0352	22400.	0.0359
22800.	0.0369	23200.	0.0380
23600.	0.0395	24000.	0.0410
24400.	0.0426	24800.	0.0443
25200.	0.0457	25600.	0.0473
26000.	0.0489	26400.	0.0504
26800.	0.0518	27200.	0.0534
27600.	0.0550	28000.	0.0574
28400.	0.0600	28800.	0.0624
29200.	0.0649	29600.	0.0671
30000.	0.0699	30400.	0.0724
30800.	0.0755	31200.	0.0790
31600.	0.0827	32000.	0.0844

Data set AFYLR4
Specimen no. 5 (144) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 7-16-80
Fatigue Life 31558.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
TA- .2029" (C)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
15600.	0.1417	16000.	0.1426
16400.	0.1434	16800.	0.1444
17200.	0.1453	17600.	0.1469
18000.	0.1488	18400.	0.1507
18800.	0.1526	19200.	0.1549
19600.	0.1577	20000.	0.1595
20400.	0.1622	20800.	0.1647
21200.	0.1676	21600.	0.1696
22000.	0.1726	22400.	0.1762
22800.	0.1806	23200.	0.1858
23600.	0.1894	24000.	0.1937
24400.	0.1985	24800.	0.2050
25200.	0.2129	25600.	0.2218
26000.	0.2314	26400.	0.2410
26800.	0.2517	27200.	0.2632
27600.	0.2739	28000.	0.2855
28400.	0.2985	28800.	0.3135
29200.	0.3304	29600.	0.3480
30000.	0.3714	30400.	0.4014
30800.	0.4513	31200.	0.5252
31558.	0.5649		

Data set AFYLR4
Specimen no. 29 (429) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 3-26-81
Fatigue Life 32000.
Failure load: A)
B)

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
19600.	0.0201	20000.	0.0211
20400.	0.0223	20800.	0.0233
21200.	0.0243	21600.	0.0253
22000.	0.0268	22400.	0.0282
22800.	0.0299	23200.	0.0318
23600.	0.0338	24000.	0.0373
24400.	0.0413	24800.	0.0455
25200.	0.0483	25600.	0.0504
26000.	0.0550	26400.	0.0607
26800.	0.0649	27200.	0.0697
27600.	0.0758	28000.	0.0808
28400.	0.0911	28800.	0.1005
29200.	0.1135	29600.	0.1267
30000.	0.1420	30400.	0.1589
30800.	0.1765	31200.	0.1984
31600.	0.2224	32000.	0.2473

Data set AFYLR4
Specimen no. 30 (430HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 3-26-81
Fatigue Life 9299.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0287	1600.	0.0373
2000.	0.0459	2400.	0.0530
2800.	0.0603	3200.	0.0677
3600.	0.0719	4000.	0.0767
4400.	0.0825	4800.	0.0886
5200.	0.0954	5600.	0.0993
6000.	0.1126	6400.	0.1188
6800.	0.1266	7200.	0.1353
7600.	0.1466	8000.	0.1674
8400.	0.1870	8800.	0.2425
9200.	0.3194	9299.	0.3405

Data set AFYLR4
Specimen no. 32 (432TB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date 3-26-81
Fatigue Life 29464.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0151	9200.	0.0172
9600.	0.0190	10000.	0.0204
10400.	0.0225	10800.	0.0244
11200.	0.0267	11600.	0.0286
12000.	0.0313	12400.	0.0332
12800.	0.0358	13200.	0.0402
13600.	0.0402	14000.	0.0421
14400.	0.0457	14800.	0.0488
15200.	0.0508	15600.	0.0529
16000.	0.0551	16400.	0.0579
16800.	0.0611	17200.	0.0646
17600.	0.0674	18000.	0.0709
18400.	0.0727	18800.	0.0774
19200.	0.0823	19600.	0.0870
20000.	0.0919	20400.	0.0971
20800.	0.1028	21200.	0.1078
21600.	0.1127	22000.	0.1179
22400.	0.1235	22800.	0.1298
23200.	0.1270	23600.	0.1442
24000.	0.1510	24400.	0.1580
24800.	0.1659	25200.	0.1743
25600.	0.1856	26000.	0.1975
26400.	0.2071	26800.	0.2192
27200.	0.2338	27600.	0.2478
28000.	0.2627	28400.	0.2794
28800.	0.2996	29200.	0.3265
29464.	0.3789		

Data set AFYMR4
Specimen no. 9 (409) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0229	10000.	0.0242
10400.	0.0257	10800.	0.0279
11200.	0.0292	11600.	0.0313
12000.	0.0332	12400.	0.0349
12800.	0.0372	13200.	0.0395
13600.	0.0416	14000.	0.0437
14400.	0.0457	14800.	0.0477
15200.	0.0494	15600.	0.0511
16000.	0.0524		

Data set AFYMR4
Specimen no. 10 (410) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S. – B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7600.	0.0215	8000.	0.0228
8400.	0.0242	8800.	0.0254
9200.	0.0267	9600.	0.0290
10000.	0.0309	10400.	0.0330
10800.	0.0340	11200.	0.0354
11600.	0.0370	12000.	0.0391
12400.	0.0412	12800.	0.0433
13200.	0.0455	13600.	0.0480
14000.	0.0508	14400.	0.0537
14800.	0.0563	15200.	0.0594
15600.	0.0624	16000.	0.0642

Data set AFYMR4
Specimen no. 11 (411) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10400.	0.0252	10800.	0.0263
11200.	0.0274	11600.	0.0286
12000.	0.0307	12400.	0.0322
12800.	0.0342	13200.	0.0361
13600.	0.0377	14000.	0.0391
14400.	0.0409	14800.	0.0425
15200.	0.0441	15600.	0.0455
16000.	0.0466		

Data set AFYMR4
Specimen no. 12 (412) TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/18/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE, FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7600.	0.0250	8000.	0.0284
8400.	0.0332	8800.	0.0348
9200.	0.0377	9600.	0.0405
10000.	0.0426	10400.	0.0447
10800.	0.0471	11200.	0.0495
11600.	0.0515	12000.	0.0542
12400.	0.0569	12800.	0.0593
13200.	0.0619	13600.	0.0642
14000.	0.0670	14400.	0.0695
14800.	0.0716	15200.	0.0741
15600.	0.0781	16000.	0.0809

Data set AFYMR4
Specimen no. 13 (413) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0247	6400.	0.0266
6800.	0.0290	7200.	0.0315
7600.	0.0331	8000.	0.0369
8400.	0.0390	8800.	0.0419
9200.	0.0450	9600.	0.0497
10000.	0.0542	10400.	0.0577
10800.	0.0610	11200.	0.0637
11600.	0.0688	12000.	0.0707
12400.	0.0747	12800.	0.0792
13200.	0.0830	13600.	0.0870
14000.	0.0930	14400.	0.0972
14800.	0.1005	15200.	0.1063
15600.	0.1129	16000.	0.1183

Data set AFYMR4
Specimen no. 14 (414) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
13200.	0.0173	13600.	0.0189
14000.	0.0209	14400.	0.0222
14800.	0.0234	15200.	0.0251
15600.	0.0278	16000.	0.0295

Data set AFYMR4
Specimen no. 15 (415) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/16/81
Fatigue Life 14006.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S. -B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0513	6800.	0.0571
7200.	0.0640	7600.	0.0704
8000.	0.0757	8400.	0.0824
8800.	0.0914	9200.	0.0974
9600.	0.1050	10000.	0.1158
10400.	0.1244	10800.	0.1362
11200.	0.1545	11600.	0.1678
12000.	0.2064	12400.	0.2064
12800.	0.2382	13200.	0.2899
13600.	0.3395	14000.	0.3814
14006.	0.3942		

Data set AFYMR4
Specimen no. 16 (416) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CS-B
Notes:
HB: 0.0136 BORE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
16000.	0.0178		

Data set AFYMR4
Specimen no. 17 (417) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/16/81
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8400.	0.0405	8800.	0.0434
9200.	0.0448	9600.	0.0470
10000.	0.0489	10400.	0.0510
10800.	0.0537	11200.	0.0561
11600.	0.0590	12000.	0.0618
12400.	0.0642	12800.	0.0671
13200.	0.0698	13600.	0.0732
14000.	0.0761	14400.	0.0804
14800.	0.0853	15200.	0.0905
15600.	0.0966	16000.	0.1002

Initiation Location(s)
(C.S, -B)
Notes:

Data set AFYMR4
Specimen no. 18 (418) TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3/20/81
Fatigue Life 16000.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0213	8400.	0.0226
8800.	0.0244	9200.	0.0265
9600.	0.0283	10000.	0.0298
10400.	0.0325	10800.	0.0343
11200.	0.0369	11600.	0.0392
12000.	0.0410	12400.	0.0443
12800.	0.0504	13200.	0.0555
13600.	0.0626	14000.	0.0696
14400.	0.0761	14800.	0.0832
15200.	0.0921	15600.	0.1012
16000.	0.1093		

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:

Data set AFYMC4
Specimen no. 1 (433HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-3-81
Fatigue Life 12400.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2000.	0.0137	2400.	0.0168
2800.	0.0000	3200.	0.0230
3600.	0.0261	4000.	0.0288
4400.	0.0318	4800.	0.0380
5200.	0.0435	5600.	0.0510
6000.	0.0569	6400.	0.0621
6800.	0.0653	7200.	0.0711
7600.	0.0787	8000.	0.0838
8400.	0.0884	8800.	0.0965
9200.	0.1038	9600.	0.1151
10000.	0.1309	10400.	0.1485
10800.	0.1712	11200.	0.1960
11600.	0.2371	12000.	0.3067
12400.	0.4244		

Data set AFYMC4
Specimen no. 2 (434HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-3-81
Fatigue Life 21606.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6800.	0.0220	7200.	0.0238
7600.	0.0255	8000.	0.0272
8400.	0.0290	8800.	0.0319
9200.	0.0357	9600.	0.0408
10000.	0.0450	10400.	0.0501
10800.	0.0532	11200.	0.0576
11600.	0.0631	12000.	0.0682
12400.	0.0730	12800.	0.0770
13200.	0.0820	13600.	0.0868
14000.	0.0931	14400.	0.0982
14800.	0.1031	15200.	0.1087
15600.	0.1148	16000.	0.1213
16400.	0.1269	16800.	0.1343
17200.	0.1419	17600.	0.1511
18000.	0.1613	18400.	0.1719
18800.	0.1844	19200.	0.2004
19600.	0.2173	20000.	0.2342
20400.	0.2586	20800.	0.2867
21200.	0.3364	21600.	0.4575
21606.	0.4587		

Data set AFYMC4
Specimen no. 3 (435HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-3-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE, (C.S. -B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0046	3600.	0.0052
4000.	0.0058	4400.	0.0065
4800.	0.0071	5200.	0.0081
5600.	0.0089	6000.	0.0099
6400.	0.0109	6800.	0.0123
7200.	0.0140	7600.	0.0161
8000.	0.0192	8400.	0.0219
8800.	0.0244	9200.	0.0268
9600.	0.0302	10000.	0.0352
10400.	0.0387	10800.	0.0421
11200.	0.0488	11600.	0.0553
12000.	0.0627	12400.	0.0737
12800.	0.0853	13200.	0.0970
13600.	0.1108	14000.	0.1254
14400.	0.1411	14800.	0.1610
15200.	0.1817	15600.	0.2087
16000.	0.2367		

Data set AFYMC4
Specimen no. 4 (437TA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-6-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE, CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0026	6800.	0.0030
7200.	0.0034	7600.	0.0039
8000.	0.0044	8400.	0.0052
8800.	0.0060	9200.	0.0071
9600.	0.0083	10000.	0.0098
10400.	0.0120	10800.	0.0151
11200.	0.0186	11600.	0.0219
12000.	0.0315	12400.	0.0315
12800.	0.0351	13200.	0.0390
13600.	0.0431	14000.	0.0471
14400.	0.0520	14800.	0.0567
15200.	0.0633	15600.	0.0695
16000.	0.0768		

Data set AFYMC4
Specimen no. 5 (438TB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 4-6-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0170	6000.	0.0186
6400.	0.0201	6800.	0.0214
7200.	0.0229	7600.	0.0240
8000.	0.0250	8400.	0.0269
8800.	0.0283	9200.	0.0303
9600.	0.0317	10000.	0.0335
10400.	0.0349	10800.	0.0370
11200.	0.0382	11600.	0.0398
12000.	0.0415	12400.	0.0434
12800.	0.0450	13200.	0.0472
13600.	0.0501	14000.	0.0536
14400.	0.0584	14800.	0.0642
15200.	0.0711	15600.	0.0781
16000.	0.0854		

Data set AFYMC4
Specimen no. 436 HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
(C.S.-B INTERSECTION)
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
6400	.0171	6800	.0191
7200	.0211	7600	.0234
8000	.0251	8400	.0283
8800	.0325	9200	.0355
9600	.0389	10000	.0426
10400	.0456	10800	.0495
11200	.0539	11600	.0587
12000	.0631	12400	.0681
12800	.0741	13200	.0795
13600	.0845	14000	.0913
14400	.0974	14800	.1067
15200	.1182	15600	.1283
16000	.1388		

Data set AFYHR4
Specimen no. 19 (419) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 15635.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8400.	0.0621	8800.	0.0670
9200.	0.0703	9600.	0.0747
10000.	0.0796	10400.	0.0845
10800.	0.0874	11200.	0.0922
11600.	0.0985	12000.	0.1052
12400.	0.1128	12800.	0.1236
13200.	0.1328	13600.	0.1364
14000.	0.1912	14400.	0.2105
14800.	0.2310	15200.	0.2484
15635.	0.2691		

Data set AFYHR4
Specimen no. 20 (420) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE - MULTI
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0127	3600.	0.0157
4000.	0.0191	4400.	0.0224
4800.	0.0254	5200.	0.0284
5600.	0.0318	6000.	0.0339
6400.	0.0364	6800.	0.0385
7200.	0.0417	7600.	0.0453
8000.	0.0473	8400.	0.0502
8800.	0.0531	9200.	0.0553
9600.	0.0584	10000.	0.0625
10400.	0.0670	10800.	0.0708
11200.	0.0756	11600.	0.0807
12000.	0.0864	12400.	0.0924
12800.	0.0994	13200.	0.1054
13600.	0.1127	14000.	0.1291
14400.	0.1400	14800.	0.1509
15200.	0.1607	15600.	0.1773
16000.	0.1962		

Data set AFYHR4
Specimen no. 21 (421) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 5-20-81
Fatigue Life 11235.
Failure load: A)
B)

Initiation Location(s):
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0116	2800.	0.0273
3200.	0.0224	3600.	0.0274
4000.	0.0332	4400.	0.0363
4800.	0.0436	5200.	0.0514
5600.	0.0574	6000.	0.0708
6400.	0.0800	6800.	0.0856
7200.	0.0942	7600.	0.1078
8000.	0.1136	8400.	0.1263
8800.	0.1355	9200.	0.1521
9600.	0.1687	10000.	0.1899
10400.	0.2159	10800.	0.2576
11200.	0.3172	11235.	0.3272

Data set AFYHR4
Specimen no. 22 (422) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTIPLE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0071	5600.	0.0083
6000.	0.0097	6400.	0.0112
6800.	0.0127	7200.	0.0143
7600.	0.0160	8000.	0.0179
8400.	0.0206	8800.	0.0229
9200.	0.0254	9600.	0.0278
10000.	0.0308	10400.	0.0332
10800.	0.0363	11200.	0.0431
11600.	0.0431	12000.	0.0480
12400.	0.0531	12800.	0.0588
13200.	0.0643	13600.	0.0694
14000.	0.0752	14400.	0.0805
14800.	0.0864	15200.	0.0941
15600.	0.1021	16000.	0.1073

Data set AFYHR4
Specimen no. 23 (423) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 14189.
Failure load: A)
B)

Initiation Location(s)
MULTI! BORE, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0279	5600.	0.0326
6000.	0.0375	6400.	0.0438
6800.	0.0471	7200.	0.0522
7600.	0.0593	8000.	0.0625
8400.	0.0660	8800.	0.0684
9200.	0.0727	9600.	0.0808
10000.	0.0852	10400.	0.0927
10800.	0.1024	11200.	0.1091
11600.	0.1165	12000.	0.1290
12400.	0.1440	12800.	0.1619
13200.	0.1868	13600.	0.2240
14000.	0.3192	14189.	0.4538

Data set AFYHR4
Specimen no. 24 (424) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 8750.
Failure load: A)
B)

Initiation Location(s)
MULTI! BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0336	5600.	0.0433
6000.	0.0549	6400.	0.0784
6800.	0.0969	7200.	0.1199
7600.	0.1514	8000.	0.2088
8400.	0.3171	8750.	0.3756

Data set AFYHR4
Specimen no. 25 (425) HP
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-20-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE, CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3600.	0.0129	4000.	0.0170
4400.	0.0201	4800.	0.0232
5200.	0.0275	5600.	0.0323
6000.	0.0369	6400.	0.0400
6800.	0.0442	7200.	0.0488
7600.	0.0542	8000.	0.0579
8400.	0.0624	8800.	0.0662
9200.	0.0706	9600.	0.0749
10000.	0.0788	10400.	0.0858
10800.	0.0904	11200.	0.0965
11600.	0.1015	12000.	0.1095
12400.	0.1157	12800.	0.1235
13200.	0.1353	13600.	0.1460
14000.	0.1574	14400.	0.1766
14800.	0.1982	15200.	0.2207
15600.	0.2583	16000.	0.3155

Data set AFYHR4
Specimen no. 26 (426) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-26-81
Fatigue Life 15356.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0098	8400.	0.0130
8800.	0.0168	9200.	0.0196
9600.	0.0251	10000.	0.0304
10400.	0.0356	10800.	0.0402
11200.	0.0493	11600.	0.0573
12000.	0.0664	12400.	0.0743
12800.	0.0880	13200.	0.1016
13600.	0.1166	14000.	0.1327
14400.	0.1618	14800.	0.2073
15356.	0.2793		

Data set AFYHR4
Specimen no. 27 (427) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-26-81
Fatigue Life 10406.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0328	4400.	0.0347
4800.	0.0382	5200.	0.0424
5600.	0.0472	6000.	0.0539
6400.	0.0601	6800.	0.0657
7200.	0.0740	7600.	0.0810
8000.	0.0903	8400.	0.1050
8800.	0.1182	9200.	0.1342
9600.	0.1536	10000.	0.2332
10400.	0.3061	10406.	0.3317

Data set AFYHR4
Specimen no. 28 (428) TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 3-26-81
Fatigue Life 22435.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0261	10000.	0.0280
10400.	0.0302	10800.	0.0325
11200.	0.0347	11600.	0.0383
12000.	0.0412	12400.	0.0439
12800.	0.0465	13200.	0.0502
13600.	0.0547	14000.	0.0605
14400.	0.0657	14800.	0.0716
15200.	0.0754	15600.	0.0828
16000.	0.0879	16400.	0.0985
16800.	0.1088	17200.	0.1178
17600.	0.1286	18000.	0.1394
18400.	0.1528	18800.	0.1635
19200.	0.1801	19600.	0.1972
20000.	0.2143	20400.	0.2306
20800.	0.2507	21200.	0.2756
21600.	0.3049	22000.	0.3497
22400.	0.4272	22435.	0.4375

Data set AFZLR4
Specimen no. 81HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (1/4)
Stress Level 27.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
2400	.0133	2800	.0151
3200	.0175	3600	.0200
4000	.0235	4400	.0278
4800	.0328	5200	.0378
5600	.0436	6000	.0497
6400	.0570	6800	.0651
7200	.0777	7600	.0888
8000	.1016	8400	.1147
8800	.1297	9200	.1460
9600	.1642	10000	.1843
10400	.2303	10800	.2592
11200	.2938	11600	.3307
12000	.3875	12400	.5296
12406	.5401		

Data set AFZLR4
Specimen no. 82HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (1/4)
Stress Level 27.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
(C.S.-B INTERSECTION)
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
1200	.0057	1600	.0069
2000	.0083	2400	.0097
2800	.0114	3200	.0135
3600	.0155	4000	.0169
4400	.0197	4800	.0227
5200	.0277	5600	.0322
6000	.0360	6400	.0383
6800	.0414	7200	.0435
7600	.0485	8000	.0552
8400	.0607	8800	.0681
9200	.0757	9600	.0877
10000	.1006	10400	.1134
10800	.1295	11200	.1435
11600	.1590	12000	.1779
12400	.1958	12800	.2162
13200	.2381	13600	.2599
14000	.2860	14400	.3148
14800	.3461	15200	.3915
15600	.4705	15635	.4723

Data set AFZLR4
Specimen no. 83HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (½)
Stress Level 22.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
400	.0114	800	.0134
1200	.0148	1600	.0170
2000	.0187	2400	.0204
2800	.0223	3200	.0259
3600	.0297	4000	.0323
4400	.0362	4800	.0404
5200	.0443	5600	.0488
6000	.0544	6400	.0604
6800	.0680	7200	.0762
7600	.0856	8000	.0937
8400	.1013	8800	.1118
9200	.1255	9600	.1349
10000	.1476	10400	.1622
10800	.1772	11200	.1919
11600	.2070	12000	.2234
12400	.2404	12800	.2599
13200	.2793	13600	.3011
14000	.3240	14400	.3505
14800	.3821	15200	.4493
15600	.5025	16000	.5376

Data set AFZLR4
Specimen no. 86HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (½)
Stress Level 22.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
5200	.0243	5600	.0266
6000	.0285	6400	.0304
6800	.0336	7200	.0376
7600	.0420	8000	.0468
8400	.0523	8800	.0578
9200	.0638	9600	.0712
10000	.0787	10400	.0883
10800	.0984	11200	.1085
11600	.1199	12000	.1336
12400	.1460	12800	.1606
13200	.1744	13600	.1912
14000	.2097	14400	.2288
14800	.2499	15200	.2707
15600	.2946	16000	.3183

Data set AFZQR4
Specimen no. 87HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 46%
Fast. Type MS-90353 (4)
Stress Level 27.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
4000	.0154	4400	.0194
4800	.0236	5200	.0286
5600	.0328	6000	.0370
6400	.0449	6800	.0507
7200	.0590	7600	.0693
8000	.0829	8400	.1023
8800	.1196	9200	.1402
9600	.1507	10000	.1713
10400	.2002	10800	.2345
11200	.2758	11600	.3202
12000	.3906	12035	.5002

Initiation Location(s)

Notes:

Data set AFZQR4
Specimen no. 90HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (4)
Stress Level 27.9 KSI
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
1200	.0095	1600	.0116
2000	.0130	2400	.0155
2800	.0171	3200	.0187
3600	.0210	4000	.0242
4400	.0259	4800	.0283
5200	.0299	5600	.0326
6000	.0340	6400	.0356
6800	.0389	7200	.0414
7600	.0444	8000	.0475
8400	.0506	8800	.0546
9200	.0591	9600	.0639
10000	.0688	10400	.0756
10800	.0821	11200	.0906
11600	.0988	12000	.1072
12400	.1163	12800	.1270
13200	.1383	13600	.1517
14000	.1677	14400	.1850
14800	.2033	15200	.2258
15600	.2462	16000	.2704

Initiation Location(s)

Notes:

Data set AFZLR4
Specimen no. 1 (92)HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 31.2 KSI
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0307	2800.	0.0311
3200.	0.0319	3600.	0.0333
4000.	0.0348	4400.	0.0359
4800.	0.0374	5200.	0.0391
5600.	0.0410	6000.	0.0430
6400.	0.0450	6800.	0.0474
7200.	0.0506	7600.	0.0535
8000.	0.0572	8400.	0.0611
8800.	0.0656	9200.	0.0713
9600.	0.0771	10000.	0.0824
10400.	0.0914	10800.	0.0992
11200.	0.1072	11600.	0.1192
12000.	0.1274	12400.	0.1380
12800.	0.1492	13200.	0.1648
13600.	0.1797	14000.	0.1971
14400.	0.2135	14800.	0.2346
15200.	0.2607	15600.	0.2956
16000.	0.3436		

Data set AFZLR4
Specimen no. 2 (93)HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 31.2 KSI
Test Date
Fatigue Life 31635.
Failure load: A)
B)

Initiation Location(s)
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Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
12400.	0.0315	12800.	0.0323
13200.	0.0336	13600.	0.0346
14000.	0.0359	14400.	0.0372
14800.	0.0387	15200.	0.0412
15600.	0.0435	16000.	0.0450
16400.	0.0463	16800.	0.0479
17200.	0.0497	17600.	0.0517
18000.	0.0540	18400.	0.0559
18800.	0.0586	19200.	0.0608
19600.	0.0628	20000.	0.0645
20400.	0.0670	20800.	0.0692
21200.	0.0720	21600.	0.0751
22000.	0.0775	22400.	0.0790
22800.	0.0811	23200.	0.0838
23600.	0.0877	24000.	0.0901
24400.	0.0939	24800.	0.0984
25200.	0.1034	25600.	0.1086
26000.	0.1133	26400.	0.1178
26800.	0.1232	27200.	0.1307
27600.	0.1401	28000.	0.1511
28400.	0.1644	28800.	0.1788
29200.	0.1963	29600.	0.2147
30000.	0.2350	30400.	0.2553
30800.	0.2872	31200.	0.3325
31635.	0.3986		

Data set AFZLR4
Specimen no. 3 (94)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.2 ksi
Test Date
Fatigue Life 30278.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
22800.	0.0214	23200.	0.0226
23600.	0.0238	24000.	0.0247
24400.	0.0258	24800.	0.0271
25200.	0.0284	25600.	0.0297
26000.	0.0311	26400.	0.0324
26800.	0.0338	27200.	0.0352
27600.	0.0366	28000.	0.0384
28400.	0.0401	28800.	0.0423
29200.	0.0438	29600.	0.0460
30000.	0.0483	30278.	0.0491

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:

SPECIMEN NOS. 91
NO CRACK AFTER 16000 FLIGHT HOURS

SPECIMEN NOS. 95, 96
NO CRACK AFTER 32000 FLIGHT HOURS

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set AFZmR4	8800.	0.0312	9200.	0.0334
Specimen no. 1 (172)TB	9600.	0.0357	10000.	0.0379
Material 7475-T7351	10400.	0.0401	10800.	0.0417
Spectrum F-16 400 Hr.	11200.	0.0438	11600.	0.0462
Load Transfer 40%	12000.	0.0491	12400.	0.0501
Fast. type MS-90353 (1/4)	12800.	0.0537	13200.	0.0573
Stress Level 33.0 Ksi	13600.	0.0616	14000.	0.0654
Test Date 8-18-80	14400.	0.0699	14800.	0.0733
Fatigue Life 16000.	15200.	0.0776	15600.	0.0833
Failure load: A)	16000.	0.0882		
B)				

Initiation Location(s)
CORNER
Notes:
HA: 0.0376 CORNER
DEBURRED

Data Set AFZmR4 NO CRACK
Specimen No. (173)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. Type MS-90353 (1/4)
Stress Level 33.0 Ksi
Test Date 8-18-80
Fatigue Life 16,000

Data set AFEMR4
Specimen no. 2 (174) HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 33.0 ksi
Test Date 6-18-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

HB - .0725" (B)
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0251	4800.	0.0268
5200.	0.0279	5600.	0.0295
6000.	0.0320	6400.	0.0335
6800.	0.0349	7200.	0.0364
7600.	0.0386	8000.	0.0397
8400.	0.0413	8800.	0.0435
9200.	0.0448	9600.	0.0466
10000.	0.0481	10400.	0.0496
10800.	0.0508	11200.	0.0522
11600.	0.0532	12000.	0.0551
12400.	0.0573	12800.	0.0591
13200.	0.0612	13600.	0.0629
14000.	0.0656	14400.	0.0675
14800.	0.0695	15200.	0.0717
15600.	0.0736	16000.	0.0749

Data set AFEMR4
Specimen no. 3 (175) HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 33.0 ksi
Test Date 8-19-80
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

TA - .0428" (C)
HA - .0520" (B)
TB - 0.0613 (C)
DEBURRED

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8800.	0.0270	9200.	0.0278
9600.	0.0287	10000.	0.0299
10400.	0.0309	10800.	0.0321
11200.	0.0336	11600.	0.0352
12000.	0.0369	12400.	0.0388
12800.	0.0409	13200.	0.0431
13600.	0.0457	14000.	0.0488
14400.	0.0508	14800.	0.0541
15200.	0.0580	15600.	0.0620
16000.	0.0635		

Data set AFZMR4
Specimen no. 2 (440HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-26-81
Fatigue Life 18806.
Failure load: A)
B)

Initiation Location(s)
BORE, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8000.	0.0162	8400.	0.0180
8800.	0.0202	9200.	0.0218
9600.	0.0234	10000.	0.0256
10400.	0.0287	10800.	0.0314
11200.	0.0336	11600.	0.0355
12000.	0.0378	12400.	0.0413
12800.	0.0445	13200.	0.0479
13600.	0.0517	14000.	0.0556
14400.	0.0603	14800.	0.0677
15200.	0.0746	15600.	0.0832
16000.	0.0934	16400.	0.1074
16800.	0.1226	17200.	0.1418
17600.	0.1641	18000.	0.1937
18400.	0.2451	18800.	0.3531
18806.	0.3554		

Data set AFZMR4
Specimen no. 1 (439)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-26-81
Fatigue Life 17606.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0292	6400.	0.0314
6800.	0.0330	7200.	0.0363
7600.	0.0384	8000.	0.0419
8400.	0.0466	8800.	0.0506
9200.	0.0539	9600.	0.0586
10000.	0.0627	10400.	0.0667
10800.	0.0698	11200.	0.0733
11600.	0.0768	12000.	0.0793
12400.	0.0851	12800.	0.0894
13200.	0.0953	13600.	0.1018
14000.	0.1098	14400.	0.1176
14800.	0.1267	15200.	0.1365
15600.	0.1468	16000.	0.1613
16400.	0.1779	16800.	0.1995
17200.	0.2275	17606.	0.2723

Data set AFZMR4
Specimen no. 3 (441HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-26-81
Fatigue Life 19549.
Failure load: A)
B)

Initiation Location(s)
FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9200.	0.0211	9600.	0.0220
10000.	0.0234	10400.	0.0252
10800.	0.0277	11200.	0.0299
11600.	0.0322	12000.	0.0347
12400.	0.0373	12800.	0.0411
13200.	0.0442	13600.	0.0491
14000.	0.0551	14400.	0.0605
14800.	0.0672	15200.	0.0740
15600.	0.0825	16000.	0.0927
16400.	0.1060	16800.	0.1168
17200.	0.1308	17600.	0.1491
18000.	0.1696	18400.	0.1994
18800.	0.2524	19200.	0.3319
19549.	0.3757		

Data set AFZMR4
Specimen no. 4 (442HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-31-81
Fatigue Life 20406.
Failure load: A)
B)

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10400.	0.0220	10800.	0.0246
11200.	0.0279	11600.	0.0316
12000.	0.0359	12400.	0.0393
12800.	0.0425	13200.	0.0470
13600.	0.0508	14000.	0.0540
14400.	0.0588	14800.	0.0659
15200.	0.0746	15600.	0.0831
16000.	0.0943	16400.	0.1057
16800.	0.1164	17200.	0.1304
17600.	0.1469	18000.	0.1671
18400.	0.1928	18800.	0.2136
19200.	0.2454	19600.	0.2876
20000.	0.3692	20406.	0.4820

Data set AFZMR4
Specimen no. 5 (443HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-31-81
Fatigue Life 23878.
Failure load: A)
B)

Initiation Location(s)
CORNER, FAYING SURFACE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7200.	0.0243	7600.	0.0253
8000.	0.0264	8400.	0.0271
8800.	0.0280	9200.	0.0290
9600.	0.0302	10000.	0.0309
10400.	0.0315	10800.	0.0325
11200.	0.0332	11600.	0.0339
12000.	0.0345	12400.	0.0354
12800.	0.0370	13200.	0.0378
13600.	0.0386	14000.	0.0394
14400.	0.0402	14800.	0.0412
15200.	0.0421	15600.	0.0436
16000.	0.0461	16400.	0.0490
16800.	0.0514	17200.	0.0530
17600.	0.0582	18000.	0.0654
18400.	0.0763	18800.	0.0837
19200.	0.0928	19600.	0.1037
20000.	0.1133	20400.	0.1258
20800.	0.1409	21200.	0.1483
21600.	0.1607	22000.	0.1723
22400.	0.1877	22900.	0.2041
23200.	0.2186	23600.	0.2298
23878.	0.2367		

Data set AFZMR4
Specimen no. 6 (444HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 3-31-81
Fatigue Life 16278.
Failure load: A)
B)

Initiation Location(s)
FS-2 INTERSECTION
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0187	3600.	0.0219
4000.	0.0250	4400.	0.0280
4800.	0.0312	5200.	0.0343
5600.	0.0371	6000.	0.0413
6400.	0.0449	6800.	0.0489
7200.	0.0534	7600.	0.0575
8000.	0.0627	8400.	0.0651
8800.	0.0701	9200.	0.0747
9600.	0.0791	10000.	0.0866
10400.	0.0913	10800.	0.0990
11200.	0.1098	11600.	0.1179
12000.	0.1265	12400.	0.1376
12800.	0.1504	13200.	0.1644
13600.	0.1840	14000.	0.2088
14400.	0.2402	14800.	0.2952
15200.	0.3650	15600.	0.4323
16278.	0.5124		

Data set AFZMC4
Specimen no. 1 (455HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-6-81
Fatigue Life 15235.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0124	5600.	0.0160
6000.	0.0227	6400.	0.0299
6800.	0.0374	7200.	0.0443
7600.	0.0498	8000.	0.0570
8400.	0.0624	8800.	0.0704
9200.	0.0766	9600.	0.0833
10000.	0.0903	10400.	0.0983
10800.	0.1080	11200.	0.1151
11600.	0.1221	12000.	0.1316
12400.	0.1403	12800.	0.1528
13200.	0.1672	13600.	0.1855
14000.	0.2071	14400.	0.2351
14800.	0.2798	15235.	0.3473

Data set AFZMC4
Specimen no. 2 (456HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 4-6-81
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7600.	0.0149	8000.	0.0165
8400.	0.0179	8800.	0.0200
9200.	0.0226	9600.	0.0259
10000.	0.0300	10400.	0.0336
10800.	0.0388	11200.	0.0430
11600.	0.0482	12000.	0.0537
12400.	0.0565	12800.	0.0617
13200.	0.0665	13600.	0.0718
14000.	0.0775	14400.	0.0833
14800.	0.0886	15200.	0.0960
15600.	0.1027	16000.	0.1071

Data set AFZHR4
Specimen no. 1 (445HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 5635.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1600.	0.0191	2000.	0.0266
2400.	0.0353	2800.	0.0513
3200.	0.0622	3600.	0.0734
4000.	0.0906	4400.	0.1060
4800.	0.1325	5200.	0.1693
5600.	0.2385	5635.	0.2556

Data set AFZHR4
Specimen no. 2 (446HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 5549.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
800.	0.0178	1200.	0.0267
1600.	0.0393	2000.	0.0512
2400.	0.0644	2800.	0.0747
3200.	0.0906	3600.	0.1101
4000.	0.1364	4400.	0.1772
4800.	0.2522	5200.	0.3820
5549.	0.5063		

Data set AFZHR4
Specimen no. 3 (447HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 9635.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2800.	0.0255	3200.	0.0318
3600.	0.0379	4000.	0.0449
4400.	0.0512	4800.	0.0570
5200.	0.0622	5600.	0.0740
6000.	0.0839	6400.	0.0944
6800.	0.1060	7200.	0.1241
7600.	0.1353	8000.	0.1613
8400.	0.1846	8800.	0.2197
9200.	0.2643	9635.	0.3464

Data set AFZHR4
Specimen no. 4 (448HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 8035.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
400.	0.0287	800.	0.0306
1200.	0.0336	1600.	0.0374
2000.	0.0411	2400.	0.0451
2800.	0.0495	3200.	0.0527
3600.	0.0577	4000.	0.0627
4400.	0.0687	4800.	0.0741
5200.	0.0796	5600.	0.0876
6000.	0.1008	6400.	0.1142
6800.	0.1313	7200.	0.1556
7600.	0.1980	8000.	0.2773
8035.	0.2816		

Data set AFZHR4
Specimen no. 5 (449HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 5478.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
400.	0.0000	800.	0.0238
1200.	0.0341	1600.	0.0490
2000.	0.0620	2400.	0.0784
2800.	0.0984	3200.	0.1184
3600.	0.1449	4000.	0.1806
4400.	0.2668	4800.	0.3468
5200.	0.4372	5478.	0.5728

Data set AFZHR4
Specimen no. 6 (450HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 3606.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0236	1600.	0.0341
2000.	0.0615	2400.	0.0909
2800.	0.1320	3200.	0.1982
3600.	0.3283	3606.	0.3309

Data set AFZHR4
Specimen no. 7 (451HB)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 9635.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0216	2800.	0.0304
3200.	0.0388	3600.	0.0463
4000.	0.0525	4400.	0.0580
4800.	0.0661	5200.	0.0744
5600.	0.0845	6000.	0.0955
6400.	0.1033	6800.	0.1168
7200.	0.1302	7600.	0.1484
8000.	0.1685	8400.	0.1862
8800.	0.2177	9200.	0.2579
9600.	0.3303	9635.	0.3331

Data set AFZHR4
Specimen no. 8 (452HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 8574.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2800.	0.0274	3200.	0.0314
3600.	0.0395	4000.	0.0458
4400.	0.0539	4800.	0.0626
5200.	0.0730	5600.	0.0781
6000.	0.0908	6400.	0.1039
6800.	0.1164	7200.	0.1294
7600.	0.1490	8000.	0.1709
8400.	0.2066	8574.	0.2727

Data set AFZHR4
Specimen no. 9 (453HA)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 4-1-81
Fatigue Life 13635.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0278	4400.	0.0305
4800.	0.0341	5200.	0.0390
5600.	0.0426	6000.	0.0473
6400.	0.0514	6800.	0.0589
7200.	0.0645	7600.	0.0724
8000.	0.0790	8400.	0.0896
8800.	0.0963	9200.	0.1059
9600.	0.1170	10000.	0.1259
10400.	0.1365	10800.	0.1492
11200.	0.1617	11600.	0.1779
12000.	0.2003	12400.	0.2244
12800.	0.2568	13200.	0.3021
13600.	0.3712	13635.	0.3822

Data set TFLC4
Specimen no. 1 (487A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 16000.
Failure loac: A)
B)

Initiation Location(s)
MULTI: BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
10000.	0.0062	10400.	0.0081
10800.	0.0111	11200.	0.0131
11600.	0.0153	12000.	0.0173
12400.	0.0199	12800.	0.0246
13200.	0.0283	13600.	0.0327
14000.	0.0380	14400.	0.0461
14800.	0.0656	15200.	0.0854
15600.	0.1118	16000.	0.1453

Data set TFLC4
Specimen no. 2 (488B)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI: BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0042	4400.	0.0055
4800.	0.0072	5200.	0.0091
5600.	0.0112	6000.	0.0141
6400.	0.0164	6800.	0.0205
7200.	0.0242	7600.	0.0287
8000.	0.0321	8400.	0.0361
8800.	0.0404	9200.	0.0474
9600.	0.0549	10000.	0.0616
10400.	0.0672	10800.	0.0759
11200.	0.0848	11600.	0.0954
12000.	0.1074	12400.	0.1189
12800.	0.1316	13200.	0.1444
13600.	0.1546	14000.	0.1688
14400.	0.1870	14800.	0.2033
15200.	0.2235	15600.	0.2504

Data set TFLC4
Specimen no. 3 (488A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI: BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0118	10000.	0.0144
10400.	0.0174	10800.	0.0208
11200.	0.0245	11600.	0.0280
12000.	0.0317	12400.	0.0343
12800.	0.0405	13200.	0.0453
13600.	0.0517	14000.	0.0563
14400.	0.0663	14800.	0.0754
15200.	0.0835	15600.	0.0924
16000.	0.1015		

Data set TFLC4
Specimen no. 4 (490A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8400.	0.0122	8800.	0.0143
9200.	0.0181	9600.	0.0220
10000.	0.0257	10400.	0.0303
10800.	0.0349	11200.	0.0393
11600.	0.0446	12000.	0.0503
12400.	0.0560	12800.	0.0608
13200.	0.0641	13600.	0.0787
14000.	0.0912	14400.	0.1013
14800.	0.1154	15200.	0.1297
15600.	0.1428	16000.	0.1592

Data set TFLC4
Specimen no. 5 (493A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 Ksi
Test Date
Fatigue Life 16000.
Failure loac: A)
B)

Initiation Location(s)
MULTI ; BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
8400.	0.0056	8800.	0.0086
9200.	0.0111	9600.	0.0130
10000.	0.0149	10400.	0.0174
10800.	0.0196	11200.	0.0226
11600.	0.0251	12000.	0.0279
12400.	0.0308	12800.	0.0333
13200.	0.0366	13600.	0.0406
14000.	0.0444	14400.	0.0464
14800.	0.0498	15200.	0.0548
15600.	0.0623	16000.	0.0852

Data set TFMC4
Specimen no. 1 (477A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 13478.
Failure load: A)
B)

Initiation Location(s)
MULTIPLE BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0109	6400.	0.0131
6800.	0.0166	7200.	0.0211
7600.	0.0270	8000.	0.0338
8400.	0.0381	8800.	0.0433
9200.	0.0480	9600.	0.0544
10000.	0.0615	10400.	0.0679
10800.	0.0774	11200.	0.0882
11600.	0.1026	12000.	0.1197
12400.	0.1396	12800.	0.1618
13200.	0.1910	13478.	0.2340

Data set TFMC4
Specimen no. 2 (478A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 12435.
Failure load: A)
B)

Initiation Location(s)
MULTIPLE BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0177	5600.	0.0200
6000.	0.0223	6400.	0.0259
6800.	0.0293	7200.	0.0336
7600.	0.0396	8000.	0.0460
8400.	0.0536	8800.	0.0618
9200.	0.0695	9600.	0.0805
10000.	0.0919	10400.	0.1023
10800.	0.1149	11200.	0.1287
11600.	0.1522	12000.	0.1794
12400.	0.2098	12435.	0.2462

Data set TFMC4
Specimen no. 3 (479B)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 14035.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0242	10000.	0.0336
10400.	0.0432	10800.	0.0587
11200.	0.0767	11600.	0.0974
12000.	0.1144	12400.	0.1327
12800.	0.1546	13200.	0.1806
13600.	0.2121	14000.	0.2524
14035.	0.3533		

Initiation Location(s)
MULTI ! BORE, (C.S. - B)
Notes:

Data set TFMC4
Specimen no. 4 (480A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 10835.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0054	3600.	0.0072
4000.	0.0095	4400.	0.0119
4800.	0.0156	5200.	0.0198
5600.	0.0251	6000.	0.0304
6400.	0.0366	6800.	0.0446
7200.	0.0528	7600.	0.0609
8000.	0.0692	8400.	0.0789
8800.	0.0856	9200.	0.0927
9600.	0.1009	10000.	0.1134
10400.	0.1347	10800.	0.1677
10835.	0.2063		

Initiation Location(s)
MULTI ! BORE
Notes:

Data set TFMC4
Specimen no. 5 (481B)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 13285.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0074	6800.	0.0106
7200.	0.0139	7600.	0.0175
8000.	0.0236	8400.	0.0296
8800.	0.0352	9200.	0.0413
9600.	0.0476	10000.	0.0542
10400.	0.0628	10800.	0.0684
11200.	0.0833	11600.	0.0983
12000.	0.1180	12400.	0.1400
12800.	0.1631	13200.	0.1981
13285.	0.2456		

Data set TFMC4
Specimen no. 6 (482A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
MULTI ! BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0037	5600.	0.0054
6000.	0.0067	6400.	0.0083
6800.	0.0098	7200.	0.0127
7600.	0.0152	8000.	0.0188
8400.	0.0213	8800.	0.0240
9200.	0.0274	9600.	0.0328
10000.	0.0391	10400.	0.0464
10800.	0.0546	11200.	0.0652
11600.	0.0757	12000.	0.0861
12400.	0.0963	12800.	0.1098
13200.	0.1241	13600.	0.1388
14000.	0.1544	14400.	0.1737
14800.	0.1968	15200.	0.2269
15600.	0.2657	16000.	0.4140

Data set TFMC4
Specimen no. 7 (4838)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
(MULT) : BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0029	5200.	0.0041
5600.	0.0050	6000.	0.0064
6400.	0.0077	6800.	0.0092
7200.	0.0110	7600.	0.0125
8000.	0.0143	8400.	0.0166
8800.	0.0182	9200.	0.0194
9600.	0.0227	10000.	0.0274
10400.	0.0339	10800.	0.0412
11200.	0.0503	11600.	0.0596
12000.	0.0672	12400.	0.0772
12800.	0.0864	13200.	0.0972
13600.	0.1085	14000.	0.1205
14400.	0.1343	14800.	0.1493
15200.	0.1661	15600.	0.1837
16000.	0.2050		

Data set TFMC4
Specimen no. 8 (485A)
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 10006.
Failure load: A)
B)

Initiation Location(s)
(MULT) : BORE
Notes:
CRACKS AT 180° ≈ SAME SIZE

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0197	6800.	0.0256
7200.	0.0345	7600.	0.0434
8000.	0.0538	8400.	0.0660
8800.	0.0825	9200.	0.1025
9600.	0.1284	10000.	0.1619
10006.	0.2402		

Data set TFXLC4
Specimen no. 1 (398)HA
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 16000.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
7600.	0.0253	8000.	0.0299
8400.	0.0337	8800.	0.0385
9200.	0.0446	9600.	0.0502
10000.	0.0555	10400.	0.0619
10800.	0.0677	11200.	0.0739
11600.	0.0794	12000.	0.0878
12400.	0.0946	12800.	0.1024
13200.	0.1101	13600.	0.1198
14000.	0.1296	14400.	0.1416
14800.	0.1546	15200.	0.1692
15600.	0.1915	16000.	0.2189

Data set TFXLC4
Specimen no. 2 (399)-4
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 8667.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0063	2800.	0.0100
3200.	0.0141	3600.	0.0204
4000.	0.0295	4400.	0.0383
4800.	0.0472	5200.	0.0577
5600.	0.0675	6000.	0.0810
6400.	0.0935	6800.	0.1073
7200.	0.1257	7600.	0.1709
8000.	0.2165	8400.	0.2982
8667.	0.5600		

Data set TFXLC4
Specimen no. 3 (401)HB
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 12699.
Failure load: A)
B)

Initiation Location(s)
MULTI ! CORNER, BORE
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5600.	0.0102	6000.	0.0163
6400.	0.0222	6800.	0.0280
7200.	0.0362	7600.	0.0466
8000.	0.0560	8400.	0.0684
9800.	0.0768	9200.	0.0869
9600.	0.0969	10000.	0.1065
10400.	0.1156	10800.	0.1283
11200.	0.1509	11600.	0.1737
12000.	0.2083	12400.	0.2496
12699.	0.4400		

Data set TFXLC4
Specimen no. 4 (402)TA
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 10407.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0085	5600.	0.0159
6000.	0.0227	6400.	0.0301
6800.	0.0377	7200.	0.0492
7600.	0.0644	8000.	0.0818
8400.	0.1016	8800.	0.1281
9200.	0.1597	9600.	0.1939
10000.	0.2447	10407.	0.4451

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set TFXLC4	2000.	0.0143	2400.	0.0286
Specimen no. 5 (403)HB	2800.	0.0421	3200.	0.0588
Material 2024-T851	3600.	0.0723	4000.	0.0902
Spectrum F-16 400 Hr.	4400.	0.1101	4800.	0.1338
Load Transfer 15%	5200.	0.1630	5600.	0.2060
Fast. type NAS 1580 (1/4)	6000.	0.2672	6400.	0.5032
Stress Level 31.0 ksi				
Test Date				
Fatigue Life 6400.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
CRACKS AT 180° ≈ SAME SIZE

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set TFXLC4	1600.	0.0234	2000.	0.0332
Specimen no. 6 (404)HB	2400.	0.0455	2800.	0.0648
Material 2024-T851	3200.	0.0811	3600.	0.0997
Spectrum F-16 400 Hr.	4000.	0.1253	4400.	0.1534
Load Transfer 15%	4800.	0.1895	5200.	0.2374
Fast. type NAS 1580 (1/4)	5607.	0.3299		
Stress Level 31.0 ksi				
Test Date				
Fatigue Life 5607.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set TFXLC4	5600.	0.0450	6000.	0.0514
Specimen no. 7 (405)TB	6400.	0.0576	6800.	0.0642
Material 2024-T851	7200.	0.0699	7600.	0.0790
Spectrum F-16 400 Hr.	8000.	0.0877	8400.	0.0987
Load Transfer 15%	8800.	0.1064	9200.	0.1205
Fast. type NAS 1580 (1/4)	9600.	0.1360	10000.	0.1520
Stress Level 31.0 ksi	10400.	0.1692	10800.	0.1885
Test Date	11200.	0.2088	11600.	0.2326
Fatigue Life 12807.	12000.	0.2645	12400.	0.3509
Failure load: A)	12807.	0.4489		
B)				

Initiation Location(s)
FAYING SURFACE (FRETTING)
Notes:

	Flt. Hours	Crack Size	Flt. Hours	Crack Size
Data set TFXLC4	2800.	0.0374	3200.	0.0544
Specimen no. 8 (406)WB	3600.	0.0764	4000.	0.1075
Material 2024-T851	4400.	0.1502	4800.	0.2020
Spectrum F-16 400 Hr.	5200.	0.2564	6035.	0.3699
Load Transfer 15%				
Fast. type NAS 1580 (1/4)				
Stress Level 31.0 ksi				
Test Date				
Fatigue Life 6035.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

Data set TFXLC4
Specimen no. 9 (407)HA
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 5478.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0147	1600.	0.0217
2000.	0.0285	2400.	0.0358
2800.	0.0429	3200.	0.0504
3600.	0.0613	4000.	0.1032
4400.	0.1401	4800.	0.2001
5200.	0.2865	5478.	0.5000

Initiation Location(s)
MULTI : CORNER, (C.S.-B)
Notes:

CRACK FRONTS CONVERGED AT
$\approx$ .060".

Data set TFXLC4
Specimen no. 10 (408)HB
Material 2024-T851
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date
Fatigue Life 9206.
Failure load: A)
B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0202	2800.	0.0259
3200.	0.0305	3600.	0.0342
4000.	0.0402	4400.	0.0473
4800.	0.0547	5200.	0.0624
5600.	0.0697	6000.	0.0825
6400.	0.0951	6800.	0.1080
7200.	0.1193	7600.	0.1329
8000.	0.1546	8400.	0.1857
8800.	0.2334	9206.	0.4000

Initiation Location(s)
CORNER
Notes:

Data set SFLP4
Specimen no. 1 (7088)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 100 -ksi
Test Date
Fatigue Life 8406.
Failure load: A)
B)

Initiation Location(s)
CORNER, BORE
Notes:
A - .0319" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
5200.	0.0172	5600.	0.0251
6000.	0.0344	6400.	0.0431
6800.	0.0582	7200.	0.0810
7600.	0.1105	8000.	0.1559
8406.	0.2487		

Data set SFLP4
Specimen no. 2 (7098)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 100 ksi
Test Date
Fatigue Life 6346.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
CRACKS AT 150° x SAME SIZE
A - .0136" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4000.	0.0197	4400.	0.0396
4800.	0.0627	5200.	0.0900
5600.	0.1308	6000.	0.1815
6346.	0.2443		

Data set SFLP4
Specimen no. 3 (710B)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 100 Ksi
Test Date
Fatigue Life 12035.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .1226" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
9600.	0.0205	10000.	0.0322
10400.	0.0440	10800.	0.0581
11200.	0.0777	11600.	0.1062
12000.	0.1634	12035.	0.1836

Data set SFLP4
Specimen no. 4 (711A)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 100 Ksi
Test Date
Fatigue Life 8748.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
B - .0192" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6000.	0.0216	6400.	0.0362
6800.	0.0517	7200.	0.0759
7600.	0.0989	8000.	0.1323
8400.	0.1862	8748.	0.3008

Data set SFLP4
Specimen no. 5 (712A)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level /00 ksi
Test Date
Fatigue Life 10759.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B-.0902"(B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0133	6800.	0.0177
7200.	0.0233	7600.	0.0296
8000.	0.0363	8400.	0.0468
8800.	0.0586	9200.	0.0762
9600.	0.0958	10000.	0.1257
10400.	0.1699	10759.	0.2357

Data set SFLP4
Specimen no. 6 (713A)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level /00 ksi
Test Date
Fatigue Life 10278.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B-.0524"(B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
6400.	0.0137	6800.	0.0175
7200.	0.0233	7600.	0.0281
8000.	0.0375	8400.	0.0477
8800.	0.0605	9200.	0.0830
9600.	0.1274	10000.	0.1747
10278.	0.2100		

Data set SFMP4
Specimen no. : (7158)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 110 ksi
Test Date
Fatigue Life 5469.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0268"(B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
3200.	0.0132	3600.	0.0283
4000.	0.0503	4400.	0.0785
4800.	0.1323	5200.	0.1907
5469.	0.2558		

Data set SFMP4
Specimen no. 2 (7168)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 110 ksi
Test Date
Fatigue Life 6806.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0210"(B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0054	4800.	0.0118
5200.	0.0182	5600.	0.0319
6000.	0.0666	6400.	0.1188
6800.	0.1684	6806.	0.1768

Data set SFMP4
Specimen no. 3 (7178)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 110 Ksi
Test Date
Fatigue Life 8439.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0695" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4800.	0.0112	5200.	0.0163
5600.	0.0216	6000.	0.0278
6400.	0.0349	6800.	0.0435
7200.	0.0706	7600.	0.0706
8000.	0.1029	8400.	0.1453
8439.	0.2042		

Data set SFMP4
Specimen no. 4 (7188)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 110 Ksi
Test Date
Fatigue Life 4835.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
A - .0224" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1600.	0.0139	2000.	0.0197
2400.	0.0271	2800.	0.0343
3200.	0.0458	3600.	0.0627
4000.	0.0861	4400.	0.1148
4800.	0.1747	4835.	0.1881

Data set SFMP4
Specimen no. 5 (7198)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 110 ksi
Test Date
Fatigue Life 6806.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:

A - .0813" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
4400.	0.0161	4800.	0.0249
5200.	0.0380	5600.	0.0542
6000.	0.0746	6400.	0.1132
6800.	0.1753	6806.	0.2152

Data set SFHP4
Specimen no. 1 (707B)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 125.0 Ksi
Test Date
Fatigue Life 1878.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
A-.0629" (C)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0329	1600.	0.1157
1878.	0.1935		

Data set SFHP4
Specimen no. 2 (720B)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 125.0 Ksi
Test Date
Fatigue Life 2806.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
A-.1233" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1200.	0.0120	1600.	0.0283
2000.	0.0676	2400.	0.1026
2806.	0.1631		

Data set SFHP4
Specimen no. 3 (721A)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 125.0 Ksi
Test Date
Fatigue Life 2992.
Failure loc: A)
B)

Initiation Location(s)
BORE
Notes:
B - .0559" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
1600.	0.0260	2000.	0.0376
2400.	0.0513	2800.	0.1604
2992.	0.1612		

Data set SFHP4
Specimen no. 4 (722B)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 125.0 Ksi
Test Date
Fatigue Life 3959.
Failure loc: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0323" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0245	2800.	0.0432
3200.	0.0801	3600.	0.1344
3959.	0.2063		

Data set SFHP4
Specimen no. 5 (723A)
Material D6ac
Spectrum F-16 400 Hr.
Load Transfer None
Fast. type NAS 6204 (1/4)
Stress Level 125.0 Ksi
Test Date
Fatigue Life 4663.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B - .0434" (B)

Flt. Hours	Crack Size	Flt. Hours	Crack Size
2400.	0.0112	2800.	0.0197
3200.	0.0329	3600.	0.0529
4000.	0.0967	4400.	0.1453
4663.	0.2456		

A P P E N D I X B

FRACTOGRAPHY DATA
(F-16 400 Hour Block Spectrum)
Secondary Cracks

Data set AFLR3
Specimen no. 99A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 29948
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
19600	.0244	20000	.0265
20400	.0281	20800	.0309
21200	.0349	21600	.0390
22000	.0439	22400	.0490
22800	.0545	23200	.0609
23600	.0675	24000	.0758
24400	.0834	24800	.0938
25200	.1022	25600	.1135
26000	.1258	26400	.1391
26800	.1537	27200	.1705
27600	.1880	28000	.2067
28400	.2273	28800	.2514
29200	.2806		

Initiation Location(s)
BORE
Notes:

Data set AFLR4
Specimen no. 107A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life 28806
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
21600	.0193	22000	.0210
22400	.0228	22800	.0258
23200	.0290	23600	.0321
24000	.0348	24400	.0363
24800	.0389	25200	.0418
25600	.0450	26000	.0491
26400	.0532	26800	.0599
27200	.0651	27600	.0721
28000	.0797	28400	.0888
28800	.0970		

Initiation Location(s)

Notes:

Data set AFLR4
Specimen no. 106B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (14)
Stress Level 32 ksi
Test Date
Fatigue Life 28006
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
24000	.0244	24400	.0268
24800	.0296	25200	.0318
25600	.0343	26000	.0373
26400	.0396	26800	.0455
27200	.0483	27600	.0530
28000	.0581		

Initiation Location(s)

Notes:

Data set AFLR4
Specimen no. 105B
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (4)
Stress Level 32 ksi
Test Date
Fatigue Life 25235
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
15200	.0197	15600	.0209
16000	.0223	16400	.0244
16800	.0259	17200	.0277
17600	.0299	18000	.0320
18400	.0346	18800	.0369
19200	.0395	19600	.0429
20000	.0464	20400	.0497
20800	.0543	21200	.0596
21600	.0649	22000	.0700
22400	.0763	22800	.0834
23200	.0921	23600	.1006
24000	.1080	24400	.1173
24800	.1292	25200	.1407
25235	.1508		

Initiation Location(s)

Notes:

Data set AFMR4(B)
Specimen no. 700B2
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (¼)
Stress Level 34 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
BORE
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
3600	.0021	4000	.0023
4400	.0025	4800	.0027
5200	.0030	5600	.0033
6000	.0035	6400	.0037
6800	.0039	7200	.0043
7600	.0046	8000	.0050
8400	.0055	8800	.0059
9200	.0064	9600	.0070
10000	.0074	10400	.0078
10800	.0083	11200	.0089
11600	.0094	12000	.0100
12400	.0107	12800	.0113
13200	.0119	13600	.0124
14000	.0132	14400	.0142
14800	.0147	15200	.0153
15600	.0164	16000	.0180

Data set AFMR4(A)
Specimen no. 117B2
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (¼)
Stress Level 34 ksi
Test Date
Fatigue Life 27206
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
13600	.0118	14000	.0129
14400	.0147	14800	.0165
15200	.0177	15600	.0189
16000	.0202	16400	.0223
16800	.0240	17200	.0257
17600	.0277	18000	.0303
18400	.0331	18800	.0356
19200	.0387	19600	.0416
20000	.0440	20400	.0477
20800	.0517	21200	.0562
21600	.0607	22000	.0651
22400	.0698	22800	.0753
23200	.0808	23600	.0865
24000	.0925	24400	.1002
24800	.1073	25200	.1149
25600	.1227	26000	.1312
26400	.1426	26800	.1549
27206	.1678		

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFMR4(A)	16400	.1005	16800	.1123
Specimen no. 116B1	17200	.1248	17600	.1366
Material 7475-T7351	18000	.1499	18400	.1656
Spectrum F-16 400 Hr.	18800	.1849	19206	.2039
Load Transfer 0%				
Fast. Type MS-90353 (1/4)				
Stress Level 34 ksi				
Test Date				
Fatigue Life 19,206 FLT. HRS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFMR4(A)	16400	.0214	16800	.0235
Specimen no. 115B*	17200	.0266	17600	.0310
Material 7475-T7351	18000	.0338	18400	.0382
Spectrum F-16 400 Hr.	18800	.0429	19200	.0480
Load Transfer 0%	19600	.0533	20000	.0592
Fast. Type MS-90353 (1/4)	20400	.0670	20800	.0749
Stress Level 34 ksi	21200	.0858	21600	.0966
Test Date	22000	.1090	22400	.1225
Fatigue Life	22800	.1382	23200	.1571
Failure Load: A)	23600	.1798	24000	.2075
B)	24400	.2405	24800	.2904
	25206	.3679		

Initiation Location(s)

Notes:

* primary crack

Data set AFMR4(A)
Specimen no. 115B*
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (¼)
Stress Level 34 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
29600	.0078	30000	.0088
30400	.0107	30800	.0125
31200	.0142	31600	.0156
32000	.0183		

Initiation Location(s)

Notes:
*secondary crack

Data set AFMR4(A)
Specimen no. 114A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (¼)
Stress Level 34 ksi
Test Date
Fatigue Life 23,606 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14000	.0142	14400	.0167
14800	.0191	15200	.0211
15600	.0239	16000	.0289
16400	.0345	16800	.0388
17200	.0432	17600	.0482
18000	.0533	18400	.0597
18800	.0668	19200	.0736
19600	.0833	20000	.0925
20400	.1017	20800	.1132
21200	.1256	21600	.1423
22000	.1627	22400	.1872
22800	.2171	23200	.2601
23606	.3274		

Initiation Location(s)

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFMR4(A)	14400	.0207	14800	.0226
Specimen no. 112B	15200	.0250	15600	.0267
Material 7475-T7351	16000	.0286	16400	.0307
Spectrum F-16 400 Hr.	16800	.0341	17200	.0360
Load Transfer 0%	17600	.0387	18000	.0400
Fast. Type MS-90353 (1/4)	18400	.0437	18800	.0482
Stress Level 34 ksi	19200	.0542	19600	.0610
Test Date	20000	.0688	20400	.0775
Fatigue Life 21,635 FLT. HRS.	20800	.0862	21200	.0959
Failure Load: A)	21600	.1066	21635	.1190
B)				

Initiation Location(s)

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFMR4(A)	15200	.0151	15600	.0164
Specimen no. 111A	16000	.0176	16400	.0203
Material 7475-T7351	16800	.0234	17200	.0260
Spectrum F-16 400 Hr.	17600	.0290	18000	.0311
Load Transfer 0%	18400	.0357	18800	.0407
Fast. Type MS-90353 (1/4)	19200	.0463	19600	.0530
Stress Level 34 ksi	20000	.0603	20400	.0688
Test Date	20800	.0788	21200	.0904
Fatigue Life 21,606 FLT. HRS.	21606	.1041		
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

Data set AFMR4(A)
Specimen no. 109A
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 0%
Fast. Type MS-90353 (1/4)
Stress Level 34 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
12000	.0207	12400	.0219
12800	.0240	13200	.0256
13600	.0276	14000	.0306
14400	.0335	14800	.0359
15200	.0394	15600	.0430
16000	.0471		

Data set AFXLR4
Specimen no. 120HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
16400	.0133	16800	.0139
17200	.0149	17600	.0158
18000	.0167	18400	.0176
18800	.0187	19200	.0193
19600	.0205	20000	.0212
20400	.0227	20800	.0241
21200	.0253	21600	.0266
22000	.0279	22400	.0291
22800	.0302	23200	.0316
23600	.0331	24000	.0346
24400	.0361	24800	.0372
25200	.0388	25600	.0404
26000	.0416	26400	.0430
26800	.0442	27200	.0457
27600	.0472	28000	.0495
28400	.0515	28800	.0533
29200	.0549	29600	.0568
30000	.0591	30400	.0614
30800	.0638	31200	.0664
31600	.0681	32000	.0683

Data set AFXLR4
Specimen no. 121HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
15200	.0192	15600	.0208
16000	.0220	16400	.0235
16800	.0246	17200	.0262
17600	.0275	18000	.0285
18400	.0298	18800	.0327
19200	.0349	19600	.0364
20000	.0374	20400	.0392
20800	.0410	21200	.0431
21600	.0451	22000	.0479
22400	.0504	22800	.0528
23200	.0552	23600	.0581
24000	.0606	24400	.0630
24800	.0653	25200	.0678
25600	.0697	26000	.0720
26400	.0744	26800	.0765
27200	.0789	27600	.0806
28000	.0830	28400	.0872
28800	.0915	29200	.0959
29600	.1001	30000	.1047
30400	.1093	30800	.1145
31200	.1189	31600	.1248
32000	.1343		

Data set AFXLR4
Specimen no. 121TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14800	.0185	15200	.0195
15600	.0205	16000	.0214
16400	.0230	16800	.0242
17200	.0257	17600	.0273
18000	.0292	18400	.0308
18800	.0330	19200	.0352
19600	.0365	20000	.0387
20400	.0402	20800	.0423
21200	.0440	21600	.0457
22000	.0481	22400	.0506
22800	.0534	23200	.0560
23600	.0586	24000	.0611
24400	.0635	24800	.0654
25200	.0677	25600	.0703
26000	.0735	26400	.0765
26800	.0788	27200	.0810
27600	.0833	28000	.0859
28400	.0885	28800	.0923
29200	.0958	29600	.1004
30000	.1052	30400	.1102
30800	.1152	31200	.1207
31600	.1262	32000	.1309

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR4	23200	.0113	23600	.0125
Specimen no. 121TB	24000	.0135	24400	.0140
Material 7475-T7351	24800	.0150	25200	.0159
Spectrum F-16 400 Hr.	25600	.0175	26000	.0186
Load Transfer 15%	26400	.0200	26800	.0216
Fast. Type MS-90353 (4)	27200	.0235	27600	.0256
Stress Level 32 ksi	28000	.0275	28400	.0300
Test Date	28800	.0336	29200	.0356
Fatigue Life	29600	.0378	30000	.0401
Failure Load: A)	30400	.0420	30800	.0441
B)	31200	.0461	31600	.0483
	32000	.0507		

Initiation Location(s)

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR4	24000	.0188	24400	.0200
Specimen no. 122HA	24800	.0213	25200	.0225
Material 7475-T7351	25600	.0237	26000	.0250
Spectrum F-16 400 Hr.	26400	.0270	26800	.0286
Load Transfer 15%	27200	.0299	27600	.0313
Fast. Type MS-90353 (1/4)	28000	.0325	28400	.0338
Stress Level 32 ksi	28800	.0353	29200	.0366
Test Date	29600	.0384	30000	.0406
Fatigue Life	30400	.0425	30800	.0454
Failure Load: A)	31200	.0471	31600	.0493
B)	32000	.0515		

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set AFXLR4	27200	.0557	27600	.0599
Specimen no. 122HB	28000	.0616	28400	.0644
Material 7475-T7351	28800	.0682	29200	.0726
Spectrum F-16 400 Hr.	29600	.0748	30000	.0779
Load Transfer 15%	30400	.0812	30800	.0841
Fast. Type MS-90353 (114)	31200	.0877	31600	.0929
Stress Level 32 ksi	32000	.0974		
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

Data set AFXLR4
Specimen no. 122TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
24400	.0183	24800	.0193
25200	.0209	25600	.0220
26000	.0241	26400	.0263
26800	.0281	27200	.0314
27600	.0347	28000	.0377
28400	.0398	28800	.0682
29200	.0471	29600	.0503
30000	.0531	30400	.0560
30800	.0599	31200	.0639
31600	.0682	32000	.0735

Initiation Location(s)
C
Notes:

Data set AFXLR4
Specimen no. 123HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (1/4)
Stress Level 32 ksi
Test Date
Fatigue Life 30,806 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
16400	.0122	16800	.0124
17200	.0129	17600	.0137
18000	.0151	18400	.0164
18800	.0177	19200	.1089
19600	.0203	20000	.0214
20400	.0231	20800	.0243
21200	.0261	21600	.0278
22000	.0294	22400	.0311
22800	.0332	23200	.0350
23600	.0370	24000	.0390
24400	.0410	24800	.0430
25200	.0452	25600	.0477
26000	.0497	26400	.0520
26800	.0545	27200	.0592
27600	.0626	28000	.0669
29200	.0880	30000	.1080
30806	.1330		

Data set AFXLR4
Specimen no. 123HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (¼)
Stress Level 32 ksi
Test Date
Fatigue Life 30,906 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
13600	.0617	14000	.0633
14400	.0656	14800	.0680
15200	.0707	15600	.0736
16000	.0760	16400	.0781
16800	.0811	17200	.0835
17600	.0861	18000	.0882
18400	.0911	18800	.0931
19200	.0977	19600	.1027
20000	.1076	20400	.1110
20800	.1145	21200	.1167
21600	.1217	22000	.1240
22400	.1260	22800	.1349
23200	.1382	23600	.1413
24000	.1464	24400	.1507
24800	.1593	25200	.1705
25600	.1810	26000	.1917
26400	.2029	26800	.2178
27200	.2343	27600	.2481
28000	.2667	28400	.2910
28800	.3178	29200	.3604
29600	.3833	30000	.4244
30400	.4757	.30806	.5267

Data set AFXLR3
Specimen no. 125TA*
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (¼)
Stress Level 32 ksi
Test Date
Fatigue Life 22,435 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)
B

Notes:
*(22435)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14800	.0118	15200	.0128
15600	.0139	16000	.0150
16400	.0172	16800	.0200
17200	.0224	17600	.0251
18000	.0280	18400	.0309
18800	.0350	19200	.0395
19600	.0445	20000	.0506
20400	.0581	10800	.0675
21200	.0779	21600	.0890
22000	.1029	22435	.1185

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR3	18000	.0215	18400	.0227
Specimen no. 125TB	18800	.0240	19200	.0256
Material 7475-T7351	19600	.0280	20000	.0305
Spectrum F-16 400 Hr.	20400	.0328	20800	.0353
Load Transfer 15%	21200	.0376	21600	.0399
Fast. Type MS-90353 (3/16)	22000	.0424	22400	.0447
Stress Level 32 ksi	22435	.0474		
Test Date				
Fatigue Life 22,435 FLT. HRS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR3	10400	.0104	10800	.0118
Specimen no. 128TB	11200	.0140	11600	.0161
Material 7475-T7351	12000	.0183	12400	.0202
Spectrum F-16 400 Hr.	12800	.0229	13200	.0270
Load Transfer 15%	13600	.0338	14000	.0392
Fast. Type MS-90353 (3/16)	14400	.0463	14800	.0545
Stress Level 32 ksi	15200	.0650	15600	.0747
Test Date	16000	.0828	16400	.0922
Fatigue Life 17,078 FLT. HRS.	16800	.1041	17078	.1119
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR3	9600	.0150	10000	.0169
Specimen no. 128TA	10400	.0201	10800	.0237
Material 7475-T7351	11200	.0262	11600	.0305
Spectrum F-16 400 Hr.	12000	.0354	12400	.0404
Load Transfer 15%	12800	.0459	13200	.0514
Fast. Type MS-90353 (3/16)	13600	.0565	14000	.0625
Stress Level 32 ksi	14400	.0679	14800	.0752
Test Date	15200	.0836	15600	.0910
Fatigue Life	16000	.1007	16400	.1104
Failure Load: A)	16800	.1188	17078	.1220
B)				

Initiation Location(s)
C
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXLR3	14000	.0231	14400	.0247
Specimen no. 129HA	14800	.0266	15200	.0285
Material 7475-T7351	15600	.0301	16000	.0331
Spectrum F-16 400 Hr.	16400	.0364	16800	.0398
Load Transfer 15%	17200	.0433	17600	.0475
Fast. Type MS-90353 (3/16)	18000	.0528	18400	.0589
Stress Level 32 ksi	18000	.0528	18400	.0589
Test Date	18800	.0666	19200	.0746
Fatigue Life 23,200 FLT. HRS.	19600	.0828	20000	.0916
Failure Load: A)	20400	.1039	20800	.1186
B)	21200	.1364	21600	.1572
	22000	.1854	22400	.2200
	22800	.2535	23200	.2754

Initiation Location(s)
C
Notes:

Data set AFXLR3
Specimen no. 131HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 22,406 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
13200	.0296	13600	.0316
14000	.0339	14400	.0361
14800	.0385	15200	.0411
15600	.0437	16000	.0464
16400	.0488	16800	.0508
17200	.0533	17600	.0558
18000	.0579	18400	.0604
18800	.0634	19200	.0667
19600	.0703	20000	.0736
20400	.0773	20800	.0816
21200	.0878	21600	.1028
22000	.1121	22406	.1206

Initiation Location(s)

Notes:

Data set AFXLR3
Specimen no. 133HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 30,806 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
16400	.0095	16800	.0104
17200	.0119	17600	.0132
18000	.0142	18400	.0157
18800	.0170	19200	.0184
19600	.0202	20000	.0219
20400	.0242	20800	.0272
21200	.0303	21600	.0327
22000	.0365	22400	.0401
22800	.0437	23200	.0479
23600	.0526	24000	.0570
24400	.0638	24800	.0703
25200	.0767	25600	.0839
26000	.0923	26400	.0992
26800	.1057	27200	.1174
27600	.1282	28000	.1395
28400	.1511	28800	.1639
29200	.1785	29600	.1972
30000	.2190	30400	.2427
30800	.2805	30806	.2805

Initiation Location(s)
B
Notes:

Data set AFXLR3
Specimen no. 133HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 30,806 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14800	.0089	15200	.0101
15600	.0114	16000	.0128
16400	.0143	16800	.0164
17200	.0185	17600	.0203
18000	.0219	18400	.0237
18800	.0261	19200	.0284
19600	.0316	20000	.0346
20400	.0367	20800	.0398
21200	.0434	21600	.0483
22000	.0532	22400	.0571
22800	.0624	23200	.0678
23600	.0747	24000	.0808
24400	.0882	24800	.0951
25200	.1016	25600	.1102
26000	.1193	26400	.1310
26800	.1428	27200	.1551
27600	.1737	28000	.1881
28400	.2065	28800	.2296
29200	.2593	29600	.2911
30000	.3359	30400	.4121
30806	.4605		

Data set AFXLR3
Specimen no. 133TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 30,806 FAT. HRS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
22800	.0179	23200	.0190
23600	.0204	24000	.0221
24400	.0242	24800	.0264
25200	.0287	25600	.0323
26000	.0355	26400	.0386
26800	.0423	27200	.0460
27600	.0515	28000	.0574
28400	.0645	28800	.0708
29200	.0786	29600	.0864
30000	.0946	30400	.1011
30806	.1040		

Data set AFXLR3
Specimen no. 134HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 28,035 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)
F.S.
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
11200	.0311	11600	.0325
12000	.0352	12400	.0375
12800	.0393	13200	.0422
13600	.0449	14000	.0469
14400	.0491	14800	.0517
15200	.0540	15600	.0565
16000	.0589	16400	.0625
16800	.0654	17200	.0677
17600	.0701	18000	.0724
18400	.0760	18800	.0801
19200	.0838	19600	.0878
20000	.0908	20400	.0958
20800	.1001	21200	.1048
21600	.1104	22000	.1167
22400	.1226	22800	.1287
23200	.1354	23600	.1422
24000	.1491	24400	.1564
24800	.1657	25200	.1750
25600	.1848	26000	.1956
26400	.2079	26800	.2225
27200	.2395	27600	.2570
28035	.2768		

Data set AFXLR3
Specimen no. 134TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 32 ksi
Test Date
Fatigue Life 28,035 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
20400	.0128	20800	.0152
21200	.0170	21600	.0192
22000	.0217	22400	.0242
22800	.0262	23200	.0292
23600	.0317	24000	.0347
24400	.0393	24800	.0439
25200	.0482	25600	.0535
26000	.0581	26400	.0620
26800	.0661	27200	.0697
27600	.0741	28000	.0776
28035	.0818		

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMR3	7600	.0035	8000	.0051
Specimen no. 135TA	8400	.0074	8800	.0093
Material 7475-T7351	9200	.0115	9600	.0138
Spectrum F-16 400 Hr.	10000	.0197	10400	.0252
Load Transfer 15%	10800	.0317	11200	.0379
Fast. Type MS-90353 (3/16)	11600	.0457	12000	.0549
Stress Level 34 ksi	12400	.063[illegible]	12800	.0774
Test Date	13200	.0917	13600	.1083
Fatigue Life 15,206 FLT. HRS.	14000	.1271	14400	.1472
Failure Load: A)	14800	.1702	15206	.1898
B)				

Initiation Location(s)
B

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMR3	8000	.0043	8400	.0058
Specimen no. 135HB*	8800	.0073	9200	.0088
Material 7475-T7351	9600	.0106	10000	.0128
Spectrum F-16 400 Hr.	10400	.0146	10800	.0162
Load Transfer 15%	11200	.0182	11600	.0202
Fast. Type MS-90353 (3/16)	12000	.0225	12400	.0255
Stress Level 34 ksi	12800	.0279	13200	.0337
Test Date	13600	.0383	14000	.0434
Fatigue Life 15,206 FLT. HRS.	14400	.0499	14800	.0559
Failure Load: A)	15206	.0600		
B)				

Initiation Location(s)

Notes:
*(15206)

Data set AFXMR3
Specimen no. 135TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 34 ksi
Test Date
Fatigue Life 15,206 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
7600	.0038	8000	.0052
8400	.0066	8800	.0080
9200	.0095	9600	.0110
10000	.0126	10400	.0140
10800	.0153	11200	.0171
11600	.0185	12000	.0171
12400	.0231	12800	.0266
13200	.0306	13600	.0355
14000	.0403	14400	.0487
14800	.0569	15206	.0647

Initiation Location(s)
B
Notes:

Data set AFXMR3
Specimen no. 136TB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 34 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14800	.0223	15200	.0236
15600	.0259	16000	.0281
16400	.0307	16800	.0326
17200	.0357	17600	.0393
18000	.0453	18406	.0502

Initiation Location(s)

Notes:

Data set AFXMR3
Specimen no. 136HB
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 34 ksi
Test Date
Fatigue Life 18,406 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
11200	.0254	11600	.0265
12000	.0278	12400	.0291
12800	.0302	13200	.0311
13600	.0323	14000	.0336
14400	.0358	14800	.0414
15200	.0437	15600	.0461
16000	.0513	16400	.0561
16800	.0626	17200	.0709
17600	.0810	18000	.0956
18406	.1181		

Initiation Location(s)
C
Notes:

Data set AFXMR3
Specimen no. 136HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type MS-90353 (3/16)
Stress Level 34 ksi
Test Date
Fatigue Life 18,406 FLT. HRS.
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
7200	.0116	7600	.0134
8000	.0154	8400	.0174
8800	.0200	9200	.0224
9600	.0255	10000	.0285
10400	.0318	10800	.0354
11200	.0393	11600	.0426
12000	.0472	12400	.0528
12800	.0578	13200	.0651
13600	.0722	14000	.0782
14400	.0848	14800	.0914
15200	.0986	15600	.1058
16000	.1134	16400	.1212
16800	.1284	17200	.1352
17600	.1436	18000	.1516
18406	.1620		

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMR3	2800	.0138	3200	.0152
Specimen no. 138TA	3600	.0167	4000	.0183
Material 7475-T7351	4400	.0202	4800	.0221
Spectrum F-16 400 Hr.	5200	.0239	5600	.0265
Load Transfer 15%	6000	.0291	6400	.0318
Fast. Type MS-90353 (3/16)	6800	.0343	7200	.0363
Stress Level 34 ksi	7600	.0392	8000	.0416
Test Date	8400	.0440	8800	.0467
Fatigue Life 13,206 FLT. HRS.	9200	.0492	9600	.0520
Failure Load: A)	10000	.0548	10400	.0584
B)	10800	.0626	11200	.0670
	11600	.0719	12000	.0795
	12400	.0909	12800	.1002
Initiation Location(s)	13206	.1089		

C

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMR3	5600	.0127	6000	.0143
Specimen no. 138TB	6400	.0167	6800	.0218
Material 7475-T7351	7200	.0291	7600	.0364
Spectrum F-16 400 Hr.	8000	.0436	8400	.0509
Load Transfer 15%	8800	.0584	9200	.0675
Fast. Type MS-90353 (3/16)	9600	.0787	10000	.0921
Stress Level 34 ksi	10400	.1004	10800	.1132
Test Date	11200	.1272	11600	.1409
Fatigue Life 13,206 FLT. HRS.	12000	.1567	12400	.1710
Failure Load: A)	12800	.1855	13206	.1887
B)				

Initiation Location(s)

B

Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMP4	13200	.0195	13600	.0204
Specimen no. 169A2	14000	.0217	14400	.0229
Material 7475-T7351	14800	.0243	15200	.0258
Spectrum F-16 400 Hr.	15600	.0274	16000	.0286
Load Transfer 15%				
Fast. Type NAS-6204 (1/4)				
Stress Level 34 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFXMP4	10400	.0122	10800	.0147
Specimen no. 170B2	11200	.0174	11600	.0194
Material 7475-T7351	12000	.0220	12400	.0240
Spectrum F-16 400 Hr.	12800	.0256	13200	.0276
Load Transfer 15%	13600	.0298	14000	.0322
Fast. Type NAS-6204 (1/4)	14400	.0348	14800	.0377
Stress Level 34 ksi	15200	.0406	15600	.0439
Test Date	16000	.0462		
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

Data set AFXMP4
Specimen no. 176A2
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 15%
Fast. Type NAS-6204 (1/4)
Stress Level 34 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
13600	.0099	14000	.0114
14400	.0130	14800	.0146
15200	.0165	15600	.0187
16000	.0206		

Initiation Location(s)
B

Notes:

Data set AFYLR4
Specimen no. 140HA(1)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
26800	.0219	27200	.0233
27600	.0252	28000	.0272
28400	.0293	28800	.0307
29200	.0321	29600	.0336
30000	.0354	30400	.0384
30800	.0407	31200	.0431
31600	.0456	32000	.0488

Data set AFYLR4
Specimen no. 140HA(2)
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
17600	.0167	18000	.0174
18400	.0181	18800	.0191
19200	.0201	19600	.0211
20000	.0220	20400	.0228
20800	.0237	21200	.0247
21600	.0258	22000	.0270
22400	.0280	22800	.0294
23200	.0305	23600	.0315
24000	.0333	24400	.0347
24800	.0367	25200	.0384
25600	.0401	26000	.0425
26400	.0460	26800	.0487
27200	.0516	27600	.0544
28000	.0582	28400	.0619
28800	.0656	29200	.0692
29600	.0727	30000	.0760
30400	.0791	30800	.0828
31200	.0868	31600	.0935
32000	.1004		

Data set AFYLR4
Specimen no. 141TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (¼)
Stress Level 30.1 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
B-
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
20800	.0097	21200	.0105
21600	.0112	22000	.0120
22400	.0129	22800	.0138
23200	.0148	23600	.0159
24000	.0173	24400	.0187
24800	.0202	25200	.0214
25600	.0227	26000	.0240
26400	.0254	26800	.0267
27200	.0281	28600	.0291
28000	.0309	28400	.0324
28800	.0340	29200	.0357
29600	.0374	30000	.0390
30400	.0406	30800	.0421
31200	.0438	32600	.0456
32000	.0460		

Data set AFYLR4
Specimen no. 141HA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (¼)
Stress Level 30.1 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
C.S.
Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
19200	.0295	19600	.0299
20000	.0305	20400	.0311
20800	.0315	21200	.0320
21600	.0327	22000	.0336
22400	.0348	22800	.0356
23200	.0368	23600	.0380
24000	.0386	24400	.0391
24800	.0401	25200	.0407
25600	.0414	26000	.0422
26400	.0431	26800	.0439
27200	.0445	27600	.0451
28000	.0445	28400	.0459
28800	.0464	29200	.0468
29600	.0473	30000	.0477
30400	.0482	30800	.0491
31200	.0502	31600	.0515
32000	.0520		

Data set AFYLR4
Specimen no. 144TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (1/4)
Stress Level 30.1 ksi
Test Date
Fatigue Life 31,558 FLT. HRS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
14000	.0232	14400	.0244
14800	.0257	15200	.0273
15600	.0294	16000	.0322
16400	.0342	16800	.0380
17200	.0409	17600	.0420
18000	.0437	18400	.0464
18800	.0503	19200	.0537
19600	.0588	20000	.0623
20400	.0661	20800	.0700
21200	.0729	21600	.0750
22000	.0787	22400	.0830
22800	.0876	23200	.0915
23600	.0963	24000	.1008
24400	.1037	24800	.1086
25200	.1129	25600	.1172
26000	.1217	26400	.1268
26800	.1339	27200	.1414
27600	.1479	28000	.1527
28400	.1578	28800	.1626
29200	.1683	29600	.1740
30000	.1783	30400	.1828
30800	.1890	31200	.1942
31558	.2029		

Data set AFYLR4
Specimen no. 431TA
Material 7475-T7351
Spectrum F-16 400 Hr.
Load Transfer 30%
Fast. Type MS-90353 (14)
Stress Level 30.1 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)
B

Notes:

Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
18400	.0312	18800	.0325
19200	.0343	19600	.0362
20000	.0378	20400	.0398
20800	.0419	21200	.0448
21600	.0465	22000	.0475
22400	.0501	22800	.0532
23200	.0566	23600	.0603
24000	.0647	24400	.0685
24800	.0720	25200	.0774
25600	.0829	26000	.0884
26400	.0955	26800	.1022
27200	.1093	27600	.1159
28000	.1241	28400	.1329
28800	.1416	29200	.1518
29600	.1616	30000	.1745
30400	.1865	30800	.1975
31200	.2095	31600	.2238
32000	.2348		

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFZmR4	6800	.0278	7200	.0302
Specimen no. 174HB	7600	.0321	8000	.0348
Material 7475-T7351	8400	.0373	8800	.0390
Spectrum F-16 400 Hr.	9200	.0406	9600	.0425
Load Transfer 40%	10000	.0447	10400	.0465
Fast. Type MS-90353 (1/4)	10800	.0483	11200	.0504
Stress Level 33 ksi	11600	.0519	12000	.0534
Test Date	12400	.0563	12800	.0586
Fatigue Life	13200	.0608	13600	.0623
Failure Load: A)	14000	.0642	14400	.0657
B)	14800	.0677	15200	.0693
	15600	.0709	16000	.0725

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFZmR4	11200	.0212	11600	.0223
Specimen no. 175TA	12000	.0233	12400	.0247
Material 7475-T7351	12800	.0263	13200	.0281
Spectrum F-16 400 Hr.	13600	.0301	14000	.0329
Load Transfer 40%	14400	.0348	14800	.0364
Fast. Type MS-90353 (1/4)	15200	.0380	15600	.0401
Stress Level 33 ksi	16000	.0428		
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFZmR4	11200	.0205	11600	.0222
Specimen no. 175HA	12000	.0246	12400	.0262
Material 7475-T7351	12800	.0283	13200	.0303
Spectrum F-16 400 Hr.	13600	.0334	14000	.0366
Load Transfer 40%	14400	.0390	14800	.0421
Fast. Type MS-90353 (1/4)	15200	.0452	15600	.0488
Stress Level 33 ksi	16000	.0520		
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFZmR4	10800	.0187	11200	.0199
Specimen no. 175TB	11600	.0212	12000	.0226
Material 7475-T7351	12400	.0241	12800	.0267
Spectrum F-16 400 Hr.	13200	.0296	13600	.0335
Load Transfer 40%	14000	.0361	14400	.0399
Fast. Type MS-90353 (1/4)	14800	.0449	15200	.0498
Stress Level 33 ksi	15600	.0566	16000	.0613
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flight Hrs.	Crack Size	Flight Hrs.	Crack Size
Data set AFZmR4	7200	.0195	7600	.0202
Specimen no. 172HA	8000	.0211	8400	.0219
Material 7475-T7351	8800	.0227	9200	.0235
Spectrum F-16 400 Hr.	9600	.0245	10000	.0252
Load Transfer 40%	10400	.0256	10800	.0263
Fast. Type MS-90353(V4)	11200	.0270	11600	.0277
Stress Level 33 ksi	12000	.0283	12400	.0292
Test Date	12800	.0298	13200	.0309
Fatigue Life	13600	.0317	14000	.0326
Failure Load: A)	14400	.0326	14400	.0336
B)	14800	.0345	15200	.0360
	15600	.0366	16000	.0376

Initiation Location(s)

Notes:

APPENDIX C

Fractography Data (B-1 Bomber Spectrum)

Appendix C

Fractography Data (B-1 Bomber Spectrum)
(Primary Cracks)

Data Set Designation	Number	Page
AB1R4	6	C-4
ABLR4(A)	10	C-7
ABLR4(B)	11	C-12
ABMR4(A)	11	C-18
ABMR4(B)	11	C-24
ABHR4(A)	10	C-30
ABHR4(B)	11	C-35
ABXLR4	11	C-41
ABXLC4	12	C-47
ABXMR4(A)	11	C-53
ABXMR4(B)	10	C-59
ABXMR3	10	C-64
ABXMC4	10	C-69
ABXHR4	11	C-74
ABXHC4	10	C-80
ABYLR4	10	C-85
ABYLC4	10	C-90
ABYMR4	10	C-95
ABYMR3	10	C-100
ABYMC4	10	C-105
ABYMC3	10	C-110
ABYHR4	10	C-115
ABYHC4	10	C-120
ABZLR4	10	C-125
ABZLC4	10	C-130
ABZMR4	10	C-135
ABZMC4	10	C-140
ABZHR4	10	C-145
ABZHC4	10	C-150
TBLC4	10	C-155
TBMC4	10	C-160
TBXMC4	10	C-165
TBXHC4	10	C-170
CBSL	1	C-175
CBSL	11	C-175
CBSH	12	C-181

Appendix C

Fractography Data (B-1 Bomber Spectrum)(Secondary Cracks)

Data Set Designation	Number	Page
AB1R4	3	C-188
ABLR4(A)	3	C-191
ABMR4(A)	10	C-193
ABHR4(A)	10	C-198
ABXLR4	27	C-203
ABXMR4(A)	26	C-217
ABXHR4	27	C-231
ABYLR4	20	C-245
ABYMR4	22	C-254
ABYHR4	20	C-270

Data set ABIR4
Specimen no. 2 (192)B2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 9-15-80
Fatigue Life 5039.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A1 : 0.0702 (BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2660.	0.0112	2760.	0.0130
2860.	0.0150	2960.	0.0170
3060.	0.0192	3160.	0.0213
3260.	0.0242	3360.	0.0275
3460.	0.0313	3560.	0.0359
3660.	0.0412	3760.	0.0474
3840.	0.0541	3940.	0.0635
4040.	0.0749	4140.	0.0870
4240.	0.1019	4340.	0.1177
4440.	0.1379	4540.	0.1614
4640.	0.1900	4740.	0.2254
4840.	0.2697	4940.	0.3288
5039.	0.4738		

Data set ABIR4
Specimen no. 4 (193)B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 9-15-80
Fatigue Life 5449.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A1 : 0.0191 BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2960.	0.0124	3060.	0.0136
3160.	0.0152	3260.	0.0174
3360.	0.0203	3460.	0.0229
3560.	0.0262	3660.	0.0297
3840.	0.0334	3940.	0.0378
4040.	0.0436	4140.	0.0510
4240.	0.0589	4340.	0.0698
4440.	0.0815	4540.	0.0965
4640.	0.1100	4740.	0.1277
4840.	0.1466	4940.	0.1698
5040.	0.1934	5120.	0.2313
5220.	0.2789	5320.	0.3559
5449.	0.4230		

*1280 flights = 13500 flight hours = 1 service life

Data set AB1R4
Specimen no. 6 (194)B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 9-15-80
Fatigue Life 6829.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A2: 0.0217 BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
4040.	0.0106	4140.	0.0112
4240.	0.0119	4340.	0.0126
4440.	0.0134	4540.	0.0147
4640.	0.0163	4740.	0.0180
4840.	0.0198	4940.	0.0214
5120.	0.0251	5220.	0.0273
5320.	0.0309	5420.	0.0353
5520.	0.0395	5620.	0.0443
5720.	0.0507	5820.	0.0585
5920.	0.0678	6020.	0.0795
6120.	0.0930	6220.	0.1098
6320.	0.1262	6400.	0.1482
6500.	0.1803	6600.	0.2251
6700.	0.3047	6829.	0.3700

Data set AB1R4
Specimen no. 7 (195)A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 9-15-80
Fatigue Life 6249.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B2: 0.0518 BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
4340.	0.0166	4440.	0.0188
4540.	0.0222	4640.	0.0257
4740.	0.0293	4840.	0.0336
4940.	0.0394	5040.	0.0472
5120.	0.0553	5220.	0.0672
5320.	0.0828	5420.	0.0997
5520.	0.1186	5620.	0.1383
5720.	0.1621	5820.	0.1929
5920.	0.2318	6020.	0.2828
6120.	0.3620	6249.	0.4255

*1280 flights = 13500 flight hours = 1 service life

Data set AB1R4
Specimen no. 9 (196)A2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 9-15-80
Fatigue Life 5719.
Failure load: A)
B).

Initiation Location(s)
BORE
Notes:
B2: 0.1375 BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
3460.	0.0161	3560.	0.0169
3660.	0.0179	3760.	0.0189
3940.	0.0211	4040.	0.0225
4140.	0.0237	4240.	0.0262
4340.	0.0281	4440.	0.0304
4540.	0.0332	4640.	0.0386
4740.	0.0446	4840.	0.0523
4940.	0.0609	5040.	0.0718
5120.	0.0822	5220.	0.0962
5320.	0.1142	5420.	0.1373
5520.	0.1687	5620.	0.2163
5719.	0.3302		

*1280 flights = 13500 flight hours = 1 service life

SPECIMEN NO. 191
NO CRACK AFTER 3840 FLIGHTS

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABLR4 (A)	1580.	0.0071	1680.	0.0095
Specimen no. 1 (218) A2	1780.	0.0111	1880.	0.0130
Material 7475-T7351	1980.	0.0155	2080.	0.0189
Spectrum B-1 Bomber	2180.	0.0231	2280.	0.0277
Load Transfer None	2380.	0.0328	2480.	0.0390
Fast. type MS-90353 (1/4)	2560.	0.0467	2660.	0.0589
Stress Level 36.0 ksi	2760.	0.0785	2860.	0.1033
Test Date 9/23/80	2960.	0.1335	3060.	0.1730
Fatigue Life 3189.	3160.	0.2458	3189.	0.2989
Failure load: A) —				
B) —				

Initiation Location(s)
BORE
Notes:
218 B - .1909" (FCL)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABLR4 (A)	1000.	0.0049	1100.	0.0065
Specimen no. 3 (219) HAI	1200.	0.0087	1380.	0.0124
Material 7475-T7351	1480.	0.0150	1580.	0.0179
Spectrum B-1 Bomber	1680.	0.0210	1780.	0.0241
Load Transfer None	1880.	0.0278	1980.	0.0315
Fast. type MS-90353 (1/4)	2080.	0.0356	2180.	0.0420
Stress Level 36.0 ksi	2280.	0.0497	2380.	0.0580
Test Date 9/23/80	2480.	0.0712	2560.	0.0850
Fatigue Life 3249.	2660.	0.1024	2760.	0.1251
Failure load: A) —	2860.	0.1516	2960.	0.1841
B) —	3060.	0.2275	3160.	0.2894
	3249.	0.4387		

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:
FINAL CRACK SIZE - 218 B) (.0123")

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4(4)
Specimen no. 8 (220) BR
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 9/23/80
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
220 Al (.0100")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
3160.	0.0097	3260.	0.0106
3360.	0.0116	3460.	0.0126
3560.	0.0137	3660.	0.0145
3760.	0.0159	3840.	0.0175

Data set ABLR4(A)
Specimen no. 9 (586B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 9/23/80
Fatigue Life 1879.
Failure load: A) —
B) —

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0090	900.	0.0126
1000.	0.0153	1100.	0.0225
1200.	0.0324	1280.	0.0399
1380.	0.0561	1480.	0.0782
1580.	0.1083	1680.	0.1450
1780.	0.1967	1879.	0.3055

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4(A)
Specimen no. 10 (587B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 2069.
Failure load: A) –
B) –

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0328	1100.	0.0377
1200.	0.0451	1280.	0.0520
1380.	0.0577	1480.	0.0701
1580.	0.0876	1680.	0.1123
1780.	0.1408	1880.	0.1794
1980.	0.2355	2069.	0.3604

Data set ABLR4(A)
Specimen no. 11 (588B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 2779.
Failure load: A) –
B) –

Initiation Location(s)
BORE - MULTI
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0048	1000.	0.0065
1100.	0.0081	1200.	0.0093
1280.	0.0119	1380.	0.0144
1480.	0.0180	1580.	0.0218
1680.	0.0260	1780.	0.0316
1880.	0.0373	1980.	0.0454
2080.	0.0549	2180.	0.0688
2280.	0.0856	2380.	0.1065
2480.	0.1336	2560.	0.1611
2660.	0.2023	2760.	0.2683
2779.	0.2800		

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (A)
Specimen no. 12 (589A)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 2759.
Failure load: A) —
B) —

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0049	900.	0.0079
1000.	0.0106	1100.	0.0133
1200.	0.0168	1280.	0.0197
1380.	0.0232	1480.	0.0273
1580.	0.0335	1680.	0.0399
1780.	0.0460	1880.	0.0549
1980.	0.0661	2080.	0.0797
2180.	0.0961	2280.	0.1163
2380.	0.1416	2480.	0.1722
2560.	0.1995	2660.	0.2505
2759.	0.3556		

Data set ABLR4 (A)
Specimen no. 13 (590)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 2539.
Failure load: A) —
B) —

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0060	1200.	0.0075
1280.	0.0089	1380.	0.0125
1480.	0.0164	1580.	0.0226
1680.	0.0278	1780.	0.0365
1880.	0.0469	1980.	0.0624
2080.	0.0824	2180.	0.1088
2280.	0.1386	2380.	0.1850
2480.	0.2540	2539.	0.3558

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (A)
Specimen no. 14 (591)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 1869.
Failure load: A) –
B) –

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0089	900.	0.0143
1000.	0.0210	1100.	0.0286
1200.	0.0370	1280.	0.0447
1380.	0.0594	1480.	0.0785
1580.	0.1044	1680.	0.1456
1780.	0.2070	1869.	0.3301

Data set ABLR4 (A)
Specimen no. 15 (592B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 1779.
Failure load: A) –
B) –

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0028	600.	0.0066
700.	0.0095	800.	0.0136
900.	0.0192	1000.	0.0253
1100.	0.0337	1200.	0.0453
1280.	0.0595	1380.	0.0820
1480.	0.1090	1580.	0.1461
1680.	0.1943	1779.	0.2960

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (B)
Specimen no. 35 (685B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:
685 A (.0342" - BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2960.	0.0159	3060.	0.0179
3160.	0.0181	3260.	0.0219
3360.	0.0237	3460.	0.0262
3560.	0.0281	3660.	0.0323
3760.	0.0367	3840.	0.0416

Data set ABLR4 (B)
Specimen no. 34 (686A)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:
686 B (< .005")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0194	1380.	0.0234
1480.	0.0272	1580.	0.0299
1680.	0.0332	1780.	0.0361
1880.	0.0383	1980.	0.0408
2080.	0.0437	2180.	0.0468
2280.	0.0500	2380.	0.0540
2480.	0.0580	2560.	0.0618
2660.	0.0654	2760.	0.0695
2860.	0.0741	2960.	0.0782
3060.	0.0839	3160.	0.0891
3260.	0.0950	3360.	0.1023
3460.	0.1113	3560.	0.1224
3660.	0.1300	3760.	0.1550
3840.	0.1786		

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (B)
Specimen no. 35 (687B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE, COUNTERSINK AREA
Notes:
687A-(.0269") BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2660.	0.0210	2760.	0.0253
2860.	0.0294	2960.	0.0343
3060.	0.0396	3160.	0.0469
3260.	0.0554	3360.	0.0651
3460.	0.0768	3560.	0.0925
3660.	0.1196	3760.	0.1676
3840.	0.2327		

Data set ABLR4 (B)
Specimen no. 36 (688B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
686A (.0141") BORE

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2280.	0.0083	2380.	0.0098
2480.	0.0112	2580.	0.0133
2660.	0.0154	2760.	0.0189
2860.	0.0224	2960.	0.0256
3060.	0.0293	3160.	0.0324
3260.	0.0370	3360.	0.0416
3460.	0.0469	3560.	0.0526
3660.	0.0591	3760.	0.0649
3840.	0.0730		

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (B)
Specimen no. 37 (689B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
SMEAR AT ORIGIN
689A (.0126"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0036	1480.	0.0045
1580.	0.0055	1680.	0.0066
1780.	0.0075	1880.	0.0087
1980.	0.0098	2080.	0.0112
2180.	0.0124	2280.	0.0142
2380.	0.0163	2480.	0.0193
2560.	0.0221	2660.	0.0258
2760.	0.0298	2860.	0.0339
2960.	0.0376	3060.	0.0430
3160.	0.0485	3260.	0.0554
3360.	0.0624	3460.	0.0718
3560.	0.0828	3660.	0.0939
3760.	0.1078	3840.	0.1215

Data set ABLR4 (B)
Specimen no. 38 (690)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
—
Notes:
ALL CRACKS < .006" DEPTH

No. of Flights*	Crack Size	No. of Flights*	Crack Size
3840.	< 0.0050		

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (B)
Specimen no. 39 (691A)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3840.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
691 B (.0445" - BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0059	1580.	0.0071
1680.	0.0084	1780.	0.0094
1880.	0.0107	1980.	0.0119
2080.	0.0131	2180.	0.0146
2280.	0.0159	2380.	0.0172
2480.	0.0190	2580.	0.0205
2680.	0.0218	2780.	0.0240
2880.	0.0266	2980.	0.0295
3080.	0.0320	3180.	0.0365
3280.	0.0391	3380.	0.0414
3480.	0.0446	3580.	0.0479
3680.	0.0518	3780.	0.0550
3840.	0.0597		

Data set ABLR4 (B)
Specimen no. 40 (692A)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3840.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
692 B (<.005")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1780.	0.0033	1880.	0.0045
1980.	0.0057	2080.	0.0068
2180.	0.0078	2280.	0.0091
2380.	0.0105	2480.	0.0125
2580.	0.0149	2680.	0.0174
2780.	0.0200	2880.	0.0230
2980.	0.0262	3080.	0.0301
3180.	0.0334	3280.	0.0369
3380.	0.0406	3480.	0.0451
3580.	0.0495	3680.	0.0544
3780.	0.0598	3840.	0.0688

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4 (B)
Specimen no. 41 (693B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
693A (<.005")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2180.	0.0073	2280.	0.0082
2380.	0.0091	2480.	0.0100
2560.	0.0108	2660.	0.0120
2760.	0.0133	2860.	0.0143
2960.	0.0157	3060.	0.0171
3160.	0.0186	3260.	0.0205
3360.	0.0225	3460.	0.0244
3560.	0.0267	3660.	0.0284
3760.	0.0308	3840.	0.0332

Data set ABLR4 (E)
Specimen no. 42 (694A)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date
Fatigue Life 3439.
Failure load: A)
B)

Initiation Location(s)
BORE (BROAD ORIGIN)
Notes:
694B (.0990"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1780.	0.0166	1880.	0.0202
1980.	0.0236	2080.	0.0266
2180.	0.0313	2280.	0.0340
2380.	0.0376	2480.	0.0423
2560.	0.0458	2660.	0.0512
2760.	0.0595	2860.	0.0714
2960.	0.0857	3060.	0.1030
3160.	0.1304	3260.	0.1670
3360.	0.2218	3439.	0.3234

*1280 flights = 13500 flight hours = 1 service life

Data set ABLR4(B)
Specimen no. 43 (695B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date
Fatigue Life 3840.
Failure loc: A)
B)

Initiation Location(s)
BORE
Notes:
695A (<.005")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2380.	0.0043	2480.	0.0047
2580.	0.0050	2680.	0.0054
2780.	0.0057	2880.	0.0061
2980.	0.0066	3080.	0.0072
3180.	0.0079	3280.	0.0086
3380.	0.0095	3480.	0.0106
3580.	0.0117	3680.	0.0131
3760.	0.0144	3840.	0.0158

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (A)
Specimen no. 1 (207) A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/16/80
Fatigue Life 2148.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1680.	0.0226	1780.	0.0371
1880.	0.0567	1980.	0.0912
2080.	0.1588	2148.	0.2733

CLEVISE FAILED AT 2148 FLIGHTS

Data set ABMR4 (A)
Specimen no. 2 (208) A2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/19/80
Fatigue Life 2960.
Failure load: A)
B)

Initiation Location(s)
—
Notes:
2088 (.1342")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1680.	0.0108	1780.	0.0144
1880.	0.0193	1980.	0.0241
2080.	0.0285	2180.	0.0351
2280.	0.0437	2380.	0.0534
2480.	0.0672	2560.	0.0843
2660.	0.1051	2760.	0.1367
2860.	0.1835	2960.	0.2584

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABMR4 (A)	1480.	0.0103	1580.	0.0127
Specimen no. 5 (209) B1	1680.	0.0148	1780.	0.0172
Material 7475-T7351	1880.	0.0216	1980.	0.0260
Spectrum B-1 Bomber	2080.	0.0308	2180.	0.0369
Load Transfer None	2280.	0.0445	2380.	0.0550
Fast. type MS-90353 (1/4)	2480.	0.0698	2560.	0.0860
Stress Level 38.0 Ksi	2660.	0.1073	2760.	0.1330
Test Date 9/19/80	2860.	0.1681	2960.	0.2157
Fatigue Life 3129.	3060.	0.2830	3129.	0.3847
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:
209 A1 (.0406"-BORE)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABMR4 (A)	1100.	0.0112	1200.	0.0128
Specimen no. 7 (210) B1	1380.	0.0162	1480.	0.0192
Material 7475-T7351	1580.	0.0224	1680.	0.0253
Spectrum B-1 Bomber	1780.	0.0291	1880.	0.0333
Load Transfer None	1980.	0.0386	2080.	0.0441
Fast. type MS-90353 (1/4)	2180.	0.0511	2280.	0.0604
Stress Level 38.0 Ksi	2380.	0.0722	2480.	0.0872
Test Date 9/22/80	2660.	0.1242	2760.	0.1521
Fatigue Life 3099.	2860.	0.1875	2960.	0.2343
Failure load: A)	3060.	0.3040	3099.	0.3709
B)				

Initiation Location(s)
BORE
Notes:
210 A1 (.0331" - BORE)

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (A)
Specimen no. 9 (211) B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/22/84
Fatigue Life 2729.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
211A (.0459"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0155	1480.	0.0194
1580.	0.0244	1680.	0.0291
1780.	0.0343	1880.	0.0406
1980.	0.0487	2080.	0.0598
2180.	0.0765	2280.	0.0975
2380.	0.1257	2480.	0.1627
2560.	0.2076	2660.	0.2680
2729.	0.3346		

Data set ABMR4 (A)
Specimen no. 10 (212) A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/22/84
Fatigue Life 3529.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
212 B1 (.1637"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1580.	0.0177	1680.	0.0198
1780.	0.0227	1880.	0.0243
1980.	0.0284	2080.	0.0310
2180.	0.0354	2280.	0.0401
2380.	0.0444	2480.	0.0498
2660.	0.0611	2760.	0.0698
2860.	0.0805	2960.	0.0920
3060.	0.1128	3160.	0.1360
3260.	0.1644	3360.	0.2021
3460.	0.2630	3529.	0.3744

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (A)
Specimen no. 12 (213) A2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/22/80
Fatigue Life 2339.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
213 B1 (.1265"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0091	1100.	0.0111
1200.	0.0140	1280.	0.0161
1380.	0.0209	1480.	0.0266
1580.	0.0321	1680.	0.0391
1780.	0.0494	1880.	0.0620
1980.	0.0808	2080.	0.1049
2180.	0.1396	2280.	0.2078
2339.	0.3157		

Data set ABMR4 (A)
Specimen no. 14 (214) A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/22/80
Fatigue Life 2839.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
214 B1 (.1335"-BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0049	1200.	0.0067
1380.	0.0107	1480.	0.0135
1580.	0.0164	1680.	0.0201
1780.	0.0245	1880.	0.0295
1980.	0.0349	2080.	0.0428
2180.	0.0514	2280.	0.0625
2380.	0.0811	2480.	0.1049
2660.	0.1679	2760.	0.2310
2839.	0.3459		

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (A)
Specimen no. 17 (Z15) B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/22/80
Fatigue Life 2529.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
215A1 (.1959" - BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0152	1580.	0.0188
1680.	0.0232	1780.	0.0293
1880.	0.0376	1980.	0.0502
2080.	0.0698	2180.	0.0936
2280.	0.1252	2380.	0.1658
2480.	0.2420	2529.	0.3497

Data set ABMR4 (A)
Specimen no. 18 (Z16) A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 9/23/80
Fatigue Life 3119.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
216B (.0709" - BORE)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0028	900.	0.0042
1000.	0.0053	1100.	0.0062
1200.	0.0074	1280.	0.0087
1380.	0.0109	1480.	0.0133
1580.	0.0162	1680.	0.0194
1780.	0.0226	1880.	0.0254
1980.	0.0295	2080.	0.0333
2180.	0.0386	2280.	0.0447
2380.	0.0519	2480.	0.0587
2560.	0.0698	2660.	0.0806
2760.	0.1069	2860.	0.1313
2960.	0.1652	3060.	0.2273
3119.	0.3183		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABMR4 (A)	1380.	0.0042	1480.	0.0053
Specimen no. 20 (217) A1	1580.	0.0065	1680.	0.0074
Material 7475-T7351	1780.	0.0087	1880.	0.0103
Spectrum B-1 Bomber	1980.	0.0120	2080.	0.0145
Load Transfer None	2180.	0.0175	2280.	0.0199
Fast. type MS-90353 (1/4)	2380.	0.0252	2480.	0.0297
Stress Level 38.0 Ksi	2660.	0.0436	2760.	0.0567
Test Date 9/23/80	2860.	0.0738	2960.	0.0965
Fatigue Life 3399.	3060.	0.1237	3160.	0.1546
Failure load: A)	3260.	0.2022	3360.	0.2760
B)	3399.	0.3478		

Initiation Location(s)
BORE
Notes:
217 B (.1949" BORE)

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (B)
Specimen no. 43 (6748)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 3619.
Failure load: A)
B)

Initiation Location(s)
MULTI BORE, (C.S. - B)
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2080.	0.0189	2180.	0.0223
2280.	0.0259	2380.	0.0301
2480.	0.0350	2560.	0.0400
2660.	0.0483	2760.	0.0569
2960.	0.0662	3060.	0.0877
3160.	0.1023	3260.	0.1222
3360.	0.1486	3460.	0.1900
3560.	0.2576	3619.	0.3877

Data set ABMR4 (B)
Specimen no. 33 (675) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1879.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0133" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0076	500.	0.0130
600.	0.0184	700.	0.0236
800.	0.0307	900.	0.0349
1000.	0.0405	1100.	0.0463
1200.	0.0541	1280.	0.0609
1380.	0.0713	1480.	0.0896
1580.	0.1068	1680.	0.1349
1780.	0.1829	1879.	0.2801

Data set ABMR4 (B)
Specimen no. 34 (676) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1679.
Failure loac: A)
B)

Initiation Location(s)
MULTI: BORE
Notes:
CRACKS AT 150° ≈ SAME SIZE
A - .0295" (C.S. - B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0031	400.	0.0078
500.	0.0126	600.	0.0181
700.	0.0240	800.	0.0318
900.	0.0367	1000.	0.0441
1100.	0.0507	1200.	0.0620
1280.	0.0760	1380.	0.0971
1480.	0.1243	1580.	0.1689
1679.	0.3132		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set A8MR4 (B)	300.	0.0074	400.	0.0130
Specimen no. 35 (677) A	500.	0.0189	600.	0.0239
Material 7475-T7351	700.	0.0295	800.	0.0352
Spectrum 8-1 Bomber	900.	0.0404	1000.	0.0469
Load Transfer None	1100.	0.0544	1200.	0.0627
Fast. type MS-90353 (1/4)	1280.	0.0705	1380.	0.0837
Stress Level 38.0 Ksi	1480.	0.1015	1580.	0.1214
Test Date	1680.	0.1458	1780.	0.1801
Fatigue Life 1929.	1880.	0.2381	1929.	0.3217
Failure load: A)				
B)				
Initiation Location(s)				
—				
Notes:				
B - .0209" (B)				

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set A8MR4 (B)	500.	0.0037	600.	0.0057
Specimen no. 36 (678) B	700.	0.0078	800.	0.0098
Material 7475-T7351	900.	0.0129	1000.	0.0158
Spectrum 8-1 Bomber	1100.	0.0193	1200.	0.0228
Load Transfer None	1280.	0.0247	1380.	0.0278
Fast. type MS-90353 (1/4).	1480.	0.0311	1580.	0.0345
Stress Level 38.0 Ksi	1680.	0.0378	1780.	0.0411
Test Date	1880.	0.0451	1980.	0.0484
Fatigue Life 3099.	2080.	0.0528	2180.	0.0582
Failure load: A)	2280.	0.0633	2380.	0.0726
B)	2480.	0.0810	2580.	0.0913
	2660.	0.1040	2760.	0.1222
Initiation Location(s)	2860.	0.1475	2960.	0.1824
BORE (AT SMEAR)	3060.	0.2419	3099.	0.3143
Notes:				
A - .0494" (B)				

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (B)
Specimen no. 37 (679) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:
B - .0176" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
3560.	0.0094	3660.	0.0141
3760.	0.0190	3840.	0.0243

Data set ABMR4 (B)
Specimen no. 38 (680) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 3360.
Failure load: A)
B)

Initiation Location(s)
(C.S - B)
Notes:
A - .0029" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0119	1380.	0.0141
1480.	0.0174	1580.	0.0218
1680.	0.0260	1780.	0.0306
1880.	0.0348	1980.	0.0387
2080.	0.0431	2180.	0.0462
2280.	0.0542	2380.	0.0608
2480.	0.0668	2560.	0.0729
2660.	0.0841	2760.	0.0985
2860.	0.1158	2960.	0.1364
3060.	0.1650	3160.	0.1977
3260.	0.2489	3360.	0.3583

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (B)
Specimen no. 39 (681) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 2649.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .1547" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0096	700.	0.0139
800.	0.0175	900.	0.0206
1000.	0.0232	1100.	0.0266
1200.	0.0295	1280.	0.0329
1380.	0.0377	1480.	0.0426
1580.	0.0476	1680.	0.0541
1780.	0.0601	1880.	0.0688
1980.	0.0798	2080.	0.0933
2180.	0.1091	2280.	0.1286
2380.	0.1503	2480.	0.1793
2560.	0.2167	2649.	0.3189

Data set ABMR4 (B)
Specimen no. 40 (682) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 2609.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:
A - .0670" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0359	1580.	0.0407
1680.	0.0468	1780.	0.0552
1880.	0.0651	1980.	0.0777
2080.	0.0923	2180.	0.1122
2280.	0.1337	2380.	0.1629
2480.	0.2041	2560.	0.2597
2609.	0.3521		

*1280 flights = 13500 flight hours = 1 service life

Data set ABMR4 (B)
Specimen no. 41 (683) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 3359.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0427" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0078	1380.	0.0105
1480.	0.0127	1580.	0.0153
1680.	0.0180	1780.	0.0211
1880.	0.0248	1980.	0.0297
2080.	0.0352	2180.	0.0419
2280.	0.0492	2380.	0.0568
2480.	0.0637	2560.	0.0694
2660.	0.0788	2760.	0.0898
2860.	0.1038	2960.	0.1202
3060.	0.1421	3160.	0.1740
3260.	0.2145	3359.	0.2950

Data set ABMR4 (B)
Specimen no. 42 (684) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 2859.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0036	1200.	0.0050
1280.	0.0069	1380.	0.0083
1480.	0.0160	1580.	0.0149
1680.	0.0206	1780.	0.0268
1880.	0.0335	1980.	0.0417
2080.	0.0518	2180.	0.0653
2280.	0.0802	2380.	0.0960
2480.	0.1162	2560.	0.1363
2660.	0.1695	2760.	0.2160
2859.	0.3059		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABHR4 (A)	900.	0.0112	1000.	0.0136
Specimen no. 2 (197) B	1100.	0.0171	1200.	0.0207
Material 7475-T7351	1290.	0.0248	1380.	0.0291
Spectrum B-1 Bomber	1480.	0.0346	1580.	0.0416
Load Transfer None	1680.	0.0501	1780.	0.0613
Fast. type MS-90353 (1/4)	1880.	0.0759	1980.	0.0944
Stress Level 40.8 ksi	2080.	0.1179	2180.	0.1473
Test Date	2279.	0.2101		
Fatigue Life 2279.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

A - .2487" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABHR4 (A)	700.	0.0163	800.	0.0192
Specimen no. 4 (198) B	900.	0.0232	1000.	0.0301
Material 7475-T7351	1100.	0.0374	1200.	0.0445
Spectrum B-1 Bomber	1290.	0.0520	1380.	0.0647
Load Transfer None	1480.	0.0845	1580.	0.1090
Fast. type MS-90353 (1/4)	1680.	0.1425	1780.	0.1873
Stress Level 40.8 ksi	1880.	0.2585	1919.	0.3287
Test Date				
Fatigue Life 1919.				
Failure load: A)				
B)				

Initiation Location(s)

BORE

Notes:

A - .0588"

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (A)
Specimen no. 5 (199) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 Ksi
Test Date
Fatigue Life 2279.
Failure load: A)
B)

Initiation Location(s)

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Notes:

A - .2133" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0115	1100.	0.0137
1200.	0.0163	1380.	0.0231
1480.	0.0287	1580.	0.0341
1680.	0.0413	1780.	0.0525
1880.	0.0677	1980.	0.0890
2080.	0.1184	2180.	0.1611
2279..	0.2496		

Data set ABHR4 (A)
Specimen no. 10 (200) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 Ksi
Test Date
Fatigue Life 2699.
Failure load: A)
B)

Initiation Location(s)

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Notes:

A - .1505" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0152	1380.	0.0194
1480.	0.0217	1580.	0.0245
1680.	0.0282	1780.	0.0314
1880.	0.0370	1980.	0.0428
2080.	0.0496	2180.	0.0583
2280.	0.0700	2380.	0.0883
2480.	0.1165	2560.	0.1709
2660.	0.2814	2699.	0.3232

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (A)
Specimen no. 12 (201) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1859.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .0503" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0243	1200.	0.0311
1380.	0.0520	1480.	0.0724
1580.	0.1014	1680.	0.1410
1780.	0.2005	1859.	0.3361

Data set ABHR4 (A)
Specimen no. 13 (202) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1719.
Failure load: A)
B)

Initiation Location(s)

Notes:
B - .0758" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0155	900.	0.0215
1000.	0.0269	1100.	0.0359
1200.	0.0471	1280.	0.0594
1380.	0.0783	1480.	0.1067
1580.	0.1529	1680.	0.2326
1719.	0.2911		

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (A)
Specimen no. 15 (203) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2279.
Failure load: A)
B)

Initiation Location(s)

Notes:

B - .0383" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0138	900.	0.0169
1000.	0.0199	1100.	0.0241
1200.	0.0291	1280.	0.0350
1380.	0.0386	1480.	0.0472
1580.	0.0572	1680.	0.0688
1780.	0.0852	1880.	0.1050
1980.	0.1307	2080.	0.1648
2180.	0.2151	2279.	0.3489

Data set ABHR4 (A)
Specimen no. 17 (204) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2759.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - .0450" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0157	1380.	0.0171
1480.	0.0206	1580.	0.0229
1680.	0.0277	1790.	0.0322
1880.	0.0384	1980.	0.0459
2080.	0.0553	2180.	0.0672
2280.	0.0832	2380.	0.1056
2480.	0.1342	2560.	0.1676
2660.	0.2159	2759.	0.3178

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABHR4 (A)	900.	0.0124	1000.	0.0145
Specimen no. 19 (205) A	1100.	0.0169	1200.	0.0192
Material 7475-T7351	1380.	0.0275	1480.	0.0340
Spectrum B-1 Bomber	1580.	0.0413	1680.	0.0508
Load Transfer None	1780.	0.0644	1880.	0.0845
Fast. type MS-90353 (1/4)	1980.	0.1102	2080.	0.1465
Stress Level 40.8 ksi	2180.	0.1987	2279.	0.2940
Test Date				
Fatigue Life 2279.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:

B - .0957" (B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABHR4 (A)	900.	0.0213	1000.	0.0265
Specimen no. 22 (206) B	1100.	0.0323	1280.	0.0452
Material 7475-T7351	1380.	0.0554	1480.	0.0697
Spectrum B-1 Bomber	1580.	0.0881	1680.	0.1133
Load Transfer None	1780.	0.1506	1880.	0.2082
Fast. type MS-90353 (1/4)	1980.	0.2807	2049.	0.3055
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 2049.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:

B - .20 .1012" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 33 (663) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2019.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
B - .1682" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0067	400.	0.0114
500.	0.0184	600.	0.0211
700.	0.0252	800.	0.0300
900.	0.0366	1000.	0.0423
1100.	0.0482	1200.	0.0533
1280.	0.0587	1380.	0.0660
1480.	0.0748	1580.	0.0860
1680.	0.1006	1780.	0.1236
1880.	0.1550	1980.	0.2153
2019.	0.3146		

Data set ABHR4 (B)
Specimen no. 34 (664) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1039.
Failure loac: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:
A - .0453" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0113	400.	0.0206
500.	0.0329	600.	0.0468
700.	0.0637	800.	0.0854
900.	0.1176	1000.	0.1792
1039.	0.2818		

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 35 (665) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2279.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A-.0999"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0660	900.	0.0100
1000.	0.0134	1100.	0.0184
1200.	0.0253	1280.	0.0316
1380.	0.0407	1480.	0.0487
1580.	0.0507	1680.	0.0658
1780.	0.0801	1880.	0.0980
1980.	0.1198	2080.	0.1516
2180.	0.1949	2279.	0.3247

Data set ABHR4 (B)
Specimen no. 36 (666) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1429.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B-.1730"(C.S.-B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0078	500.	0.0146
600.	0.0238	700.	0.0325
800.	0.0402	900.	0.0480
1000.	0.0594	1100.	0.0760
1200.	0.0988	1280.	0.1253
1380.	0.1864	1429.	0.3002

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 37 (667) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1829.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B - .0866" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0183	1000.	0.0252
1100.	0.0337	1200.	0.0450
1280.	0.0554	1380.	0.0702
1480.	0.0894	1580.	0.1132
1680.	0.1432	1780.	0.1947
1829.	0.2885		

Data set ABHR4 (B)
Specimen no. 38 (668) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1869.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .2480" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0051	400.	0.0100
500.	0.0152	600.	0.0182
700.	0.0237	800.	0.0288
900.	0.0355	1000.	0.0413
1100.	0.0482	1200.	0.0572
1280.	0.0650	1380.	0.0766
1480.	0.0928	1580.	0.1133
1680.	0.1400	1780.	0.1840
1869.	0.3150		

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 39 (669) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 3019.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0078	1200.	0.0116
1280.	0.0148	1380.	0.0178
1480.	0.0219	1580.	0.0261
1680.	0.0301	1780.	0.0340
1880.	0.0419	1980.	0.0474
2080.	0.0535	2180.	0.0611
2280.	0.0718	2380.	0.0829
2480.	0.0967	2560.	0.1103
2660.	0.1276	2760.	0.1516
2860.	0.1845	2960.	0.2386
3019.	0.3135		

Initiation Location(s)
BORE
Notes:
B-,0650" (C.S.-B)

Data set ABHR4 (B)
Specimen no. 40 (670) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2179.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0046	300.	0.0076
400.	0.0119	500.	0.0157
600.	0.0196	700.	0.0243
800.	0.0302	900.	0.0341
1000.	0.0388	1100.	0.0456
1200.	0.0511	1280.	0.0556
1380.	0.0632	1480.	0.0723
1580.	0.0828	1680.	0.0952
1780.	0.1100	1880.	0.1271
1980.	0.1505	2080.	0.1850
2179.	0.2565		

Initiation Location(s)
BORE
Notes:
B-,0233" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 41 (671) A
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1569.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B - .0149" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0088	600.	0.0146
700.	0.0213	800.	0.0294
900.	0.0389	1000.	0.0499
1100.	0.0624	1200.	0.0816
1280.	0.1066	1380.	0.1553
1480.	0.2144	1569.	0.2839

Data set ABHR4 (B)
Specimen no. 43 (673) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1449.
Failure load: A)
B)

Initiation Location(s)
CS-3 INTERSECTION
Notes:
A - 0.0121 (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0295	800.	0.0405
900.	0.0512	1000.	0.0676
1100.	0.0831	1200.	0.1078
1280.	0.1430	1380.	0.1899
1449.	0.2922		

*1280 flights = 13500 flight hours = 1 service life

Data set ABHR4 (B)
Specimen no. 42 (672) B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1679.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:
A-.0121" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0606	1200.	0.0711
1280.	0.0810	1380.	0.1006
1480.	0.1291	1580.	0.1780
1679.	0.3028		

*1280 flights = 13500 flight hours = 1 Service Life

Data set ABXLR4
Specimen no. 11 (642) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-8-80
Fatigue Life 2015.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA (.1308" - C)
TA (.0599" - C.C.S-E))
TB (<.065")

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0131	800.	0.0197
900.	0.0278	1000.	0.0336
1100.	0.0415	1200.	0.0499
1280.	0.0598	1380.	0.0797
1480.	0.0922	1580.	0.1116
1680.	0.1394	1780.	0.1785
1880.	0.2279	1980.	0.3228
2015.	0.5000		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLR4
Specimen no. 1 (241) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date 12/5/80
Fatigue Life 2760.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
241 HB (.0856"-C), 241 TA (.1624"-B), 241 TB (.2100-C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0123	1280.	0.0185
1380.	0.0262	1480.	0.0316
1580.	0.0366	1680.	0.0422
1780.	0.0473	1880.	0.0561
1980.	0.0650	2080.	0.0765
2180.	0.0882	2280.	0.1077
2380.	0.1299	2480.	0.1604
2560.	0.1902	2660.	0.2334
2760.	0.3277		

Data set ABXLR4
Specimen no. 2 (242) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date 12-5-80
Fatigue Life 3660.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0007	700.	0.0019
800.	0.0023	900.	0.0050
1000.	0.0066	1100.	0.0109
1200.	0.0142	1380.	0.0206
1480.	0.0254	1580.	0.0302
1680.	0.0351	1780.	0.0415
1880.	0.0474	1980.	0.0542
2080.	0.0616	2180.	0.0694
2280.	0.0762	2380.	0.0851
2480.	0.0942	2560.	0.1026
2660.	0.1111	2760.	0.1226
2860.	0.1372	2960.	0.1520
3060.	0.1660	3160.	0.1851
3260.	0.2047	3360.	0.2290
3460.	0.2607	3560.	0.2990
3660.	0.3855		

242 HB (.2733"-C), 242 TA (.2453"-C), 242 TB (.1658-B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXLR4	1000.	0.0146	1100.	0.0184
Specimen no. 3 (243) TB	1200.	0.0216	1380.	0.0263
Material 7475-T7351	1480.	0.0338	1580.	0.0415
Spectrum B-1 Bomber	1680.	0.0494	1780.	0.0575
Load Transfer 15%	1880.	0.0669	1980.	0.0807
Fast. type MS-90353 (1/4)	2080.	0.0970	2180.	0.1181
Stress Level 36.0 ksi	2280.	0.1443	2380.	0.1790
Test Date 12-5-80	2480.	0.2314	2560.	0.3139
Fatigue Life 2589.	2589.	0.3563		
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
243 TA (.2420"-C), 243 HB (.1363-C), 243 HA (.2768-C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXLR4	800.	0.0030	900.	0.0048
Specimen no. 4 (244) HB	1000.	0.0075	1100.	0.0095
Material 7475-T7351	1200.	0.0116	1280.	0.0146
Spectrum B-1 Bomber	1380.	0.0186	1480.	0.0221
Load Transfer 15%	1580.	0.0272	1680.	0.0340
Fast. type MS-90353 (1/4)	1780.	0.0417	1880.	0.0500
Stress Level 36.0 ksi	1980.	0.0621	2080.	0.0743
Test Date 12-5-80	2180.	0.0917	2280.	0.1124
Fatigue Life 2589.	2380.	0.1401	2480.	0.1785
Failure load: A)	2560.	0.2517	2589.	0.2704
B)				

Initiation Location(s)
CORNER
Notes:
244 TA (.4380"-C), 244 HA (.0972"-C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLR4
Specimen no. 5 (245) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 Ksi
Test Date 12-5-80
Fatigue Life 1549.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0112	500.	0.0172
600.	0.0253	700.	0.0307
800.	0.0377	900.	0.0481
1000.	0.0632	1100.	0.0816
1200.	0.1054	1280.	0.1442
1380.	0.1885	1480.	0.2729
1549.	0.4029		

Initiation Location(s)
(C.S.-B) INTERSECTION PLOS BORE (NEAR CORNER)
Notes:
HIGH CRACK GROWTH RATE DUE TO MULTI-CRACKS CONVERGING,

245TA (.0318"C),

Data set ABXLR4
Specimen no. 6 (246) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.9 Ksi
Test Date 12-5-80
Fatigue Life 3149.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0456	1580.	0.0505
1680.	0.0554	1780.	0.0657
1880.	0.0720	1980.	0.0803
2080.	0.0900	2180.	0.0999
2280.	0.1111	2380.	0.1251
2480.	0.1399	2560.	0.1602
2660.	0.1773	2760.	0.2015
2860.	0.2343	2960.	0.2726
3060.	0.3230	3149.	0.4547

Initiation Location(s)
FAYING SURFACE (NEAR CORNER)
Notes:
246 HB(.0119"C), 246 TA (.1118"-C), 246 HA(.4015"-C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLR4
Specimen no. 7 (247) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-8-80
Fatigue Life 2660.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0080	1280.	0.0107
1380.	0.0146	1480.	0.0178
1580.	0.0244	1680.	0.0357
1780.	0.0491	1880.	0.0656
1980.	0.0855	2080.	0.1104
2180.	0.1368	2280.	0.1715
2380.	0.2087	2480.	0.2633
2560.	0.3114	2660.	0.4467

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
247 TB (.0724"-B), 247 HA (.0201"-C), 247HB(.1827"-B).

Data set ABXLR4
Specimen no. 8 (248) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-8-80
Fatigue Life 3199.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0081	800.	0.0125
900.	0.0174	1000.	0.0211
1100.	0.0258	1200.	0.0305
1280.	0.0333	1380.	0.0378
1480.	0.0410	1580.	0.0443
1680.	0.0479	1780.	0.0525
1880.	0.0586	1980.	0.0649
2080.	0.0702	2180.	0.0774
2280.	0.0861	2380.	0.0965
2480.	0.1068	2560.	0.1164
2660.	0.1263	2760.	0.1441
2860.	0.1649	2960.	0.1938
3060.	0.2322	3160.	0.2973
3199.	0.3776		

248 HB(.0326"-C), 248 TB(.3505"-C), 248 TA(.0567"-C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLR4
Specimen no. 9 (249) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-8-80
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0113	1480.	0.0138
1580.	0.0163	1680.	0.0188
1780.	0.0214	1880.	0.0257
1980.	0.0291	2080.	0.0335
2180.	0.0376	2280.	0.0419
2380.	0.0458	2480.	0.0502
2560.	0.0574	2660.	0.0680
2760.	0.0768	2860.	0.0873
2960.	0.1009	3060.	0.1130
3160.	0.1280	3260.	0.1446
3360.	0.1628	3460.	0.1822
3560.	0.2082	3660.	0.2427
3760.	0.2883	3840.	0.3456

249 HA (.2647"-C), 249 TA (.1585"-C), 249 HB (.0829"-C)

Data set ABXLR4
Specimen no. 10 (250) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-8-80
Fatigue Life 3125.
Failure load: A)
B)

Initiation Location(s)
(CS-B) INTERSECTION PLUS BORE (NEAR CORNER)
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0116	900.	0.0156
1000.	0.0187	1100.	0.0218
1200.	0.0244	1380.	0.0300
1480.	0.0336	1580.	0.0377
1680.	0.0428	1780.	0.0499
1880.	0.0549	1980.	0.0611
2080.	0.0693	2180.	0.0776
2280.	0.0903	2380.	0.1014
2480.	0.1156	2560.	0.1307
2660.	0.1504	2760.	0.1732
2860.	0.2047	2960.	0.2481
3060.	0.3150	3125.	0.4267

250 TB (.0676"-C), 250 HA (.2128"-C), 250 TA (.0518"-C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLC4
Specimen no. 1 (517) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 ksi
Test Date 5/8/81
Fatigue Life 2760.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0051	800.	0.0070
900.	0.0089	1000.	0.0106
1100.	0.0147	1200.	0.0177
1280.	0.0217	1380.	0.0264
1480.	0.0307	1580.	0.0361
1680.	0.0422	1780.	0.0503
1880.	0.0567	1980.	0.0671
2080.	0.0828	2180.	0.1025
2280.	0.1264	2380.	0.1548
2480.	0.1875	2560.	0.2205
2660.	0.2810	2760.	0.3782

Initiation Location(s)
CORNER
Notes.
HA-.1586"(B), HB-.1294"(C), TB-.2059"(C)

DATA SET ABXLC4

SPECIMEN NO. 518

BUCKLED DUE TO STORM

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLC4
Specimen no. 2 (519) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 5/81 81
Fatigue Life 2179.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0051	400.	0.0084
500.	0.0108	600.	0.0144
700.	0.0180	800.	0.0226
900.	0.0302	1000.	0.0377
1100.	0.0467	1200.	0.0557
1280.	0.0653	1380.	0.0775
1480.	0.0946	1580.	0.1147
1680.	0.1398	1780.	0.1727
1880.	0.2110	1980.	0.2553
2080.	0.3180	2179.	0.4464

Initiation Location(s)
CORNER
Notes:
HA - .1935"(C), HB - .0868"(B), TA - .2104"(C)

Data set ABXLC4
Specimen no. 3 (520) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 5/81 81
Fatigue Life 1259.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0089	400.	0.0143
500.	0.0191	600.	0.0268
700.	0.0407	800.	0.0675
900.	0.0972	1000.	0.1348
1100.	0.1803	1200.	0.2479
1259.	0.5042		

Initiation Location(s)
CORNER
Notes:
HB - .2480"(C), TA - .0493"(C), TB - < .005"

*1280 flights = 13500 flight hours = 1 service life

DATA SET ABXLC4

SPECIMEN NO. 521

BUCKLED DUE TO STORM

Data set ABXLC4
Specimen no. 4 (522) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 5/6/81
Fatigue Life 2439.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0049	900.	0.0078
1000.	0.0103	1100.	0.0144
1200.	0.0180	1380.	0.0283
1480.	0.0363	1580.	0.0443
1680.	0.0538	1780.	0.0624
1880.	0.0815	1980.	0.1042
2080.	0.1282	2180.	0.1612
2280.	0.2066	2380.	0.2711
2439.	0.3548		

Initiation Location(s)
CORNER
Notes:
HA - .2872" (C), HB - .1045" (C), TA - > .120" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXLC4
Specimen no. 5 (523)TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 ksi
Test Date 5-8-81
Fatigue Life 2859.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2280.	0.0831	2380.	0.0965
2480.	0.1134	2560.	0.1388
2660.	0.1739	2760.	0.2225
2859.	0.3001		

Initiation Location(s)
CORNER
Notes:
HA-.0185"(C), HB-.2704"(C), TB-.0516"(C)

Data set ABXLC4
Specimen no. 6 (524) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 ksi
Test Date 5-11-81
Fatigue Life 2080.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0031	600.	0.0050
700.	0.0063	800.	0.0082
900.	0.0112	1000.	0.0140
1100.	0.0180	1200.	0.0238
1280.	0.0295	1380.	0.0400
1480.	0.0544	1580.	0.0736
1680.	0.0999	1780.	0.1336
1880.	0.1772	1980.	0.2405
2080.	0.3751		

Initiation Location(s)
BORE
Notes:
HA-.0219"(C), HB-.2482"(C.S.-B), TB->.120"(B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABX_C4
Specimen no. 7 (525) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 5-11-81
Fatigue Life 2959.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1260.	0.0133	1380.	0.0188
1480.	0.0231	1580.	0.0322
1680.	0.0412	1780.	0.0496
1880.	0.0605	1980.	0.0704
2080.	0.0806	2180.	0.0915
2280.	0.1083	2380.	0.1253
2480.	0.1501	2560.	0.1717
2660.	0.2071	2760.	0.2488
2860.	0.3071	2959.	0.5044

Initiation Location(s)
CORNER
Notes:
HA-.1237"(C), HB->.225"(C), TB-.2700"(B)

Data set ABXLC4
Specimen no. 8 (526)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 5-11-81
Fatigue Life 2739.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0037	700.	0.0050
800.	0.0067	900.	0.0084
1000.	0.0110	1100.	0.0135
1200.	0.0157	1280.	0.0193
1380.	0.0232	1480.	0.0279
1580.	0.0329	1680.	0.0392
1780.	0.0473	1880.	0.0582
1980.	0.0700	2080.	0.0855
2180.	0.1031	2280.	0.1259
2380.	0.1518	2480.	0.1806
2560.	0.2126	2660.	0.2715
2739.	0.3926		

Initiation Location(s)

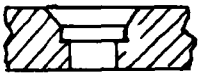
Notes:
HA-.3150"(C), HB-.0654"(B), TA-.0428"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXLC4	1280.	0.0218	1380.	0.0334
Specimen no. 9 (638) HB	1480.	0.0454	1580.	0.0607
Material 7475-T7351	1680.	0.0750	1780.	0.0923
Spectrum B-1 Bomber	1880.	0.1132	1980.	0.1377
Load Transfer 15%	2080.	0.1670	2180.	0.2008
Fast. type NAS 1580 (1/4)	2280.	0.2465	2380.	0.3222
Stress Level 36.0 Ksi	2439.	0.5621		
Test Date				
Fatigue Life 2439.				
Failure load: A)				
B)				

Initiation Location(s)
BORE NEAR COUNTERSINK)
Notes:

HA - .1116" (C.S.-B), TA - .005" (B), TB - <.005"
SEALANT GROOVES IN HOLE



	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXLC4	400.	0.0110	500.	0.0184
Specimen no. 10 (639) HA	600.	0.0263	700.	0.0331
Material 7475-T7351	800.	0.0432	900.	0.0554
Spectrum B-1 Bomber	1000.	0.0727	1100.	0.0941
Load Transfer 15%	1200.	0.1209	1280.	0.1462
Fast. type NAS 1580 (1/4)	1380.	0.1853	1480.	0.2462
Stress Level 36.0 Ksi	1569.	0.4056		
Test Date				
Fatigue Life 1569.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S.-B)
Notes:

HB - .0765" (B), TA - <.005" (B), TB - .0834" (B)
SEALANT GROOVES IN HOLE

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4 (A)
Specimen no. 1 (231) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 11-25-80
Fatigue Life 2079.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA - .0212" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0128	900.	0.0200
1000.	0.0276	1100.	0.0350
1200.	0.0448	1280.	0.0528
1380.	0.0620	1480.	0.0762
1580.	0.0912	1680.	0.1115
1780.	0.1364	1880.	0.1705
1980.	0.2237	2079.	0.3393

Data set ABXMR4 (A)
Specimen no. 2 (232) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 11-25-80
Fatigue Life 1579.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
TB - .0501 (C)
TA - .1860 (C)
HA - .0224 (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0128	300.	0.0179
400.	0.0239	500.	0.0306
600.	0.0364	700.	0.0412
800.	0.0482	900.	0.0572
1000.	0.0677	1100.	0.0813
1200.	0.0945	1280.	0.1224
1380.	0.1565	1480.	0.2058
1579.	0.3117		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4 (A)
Specimen no. 3 (233) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 12-3-80
Fatigue Life 1979.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB - .1248" (C)
TA - .1421" (B)
TB - .0919" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0115	700.	0.0154
800.	0.0215	900.	0.0265
1000.	0.0315	1100.	0.0395
1200.	0.0466	1380.	0.0614
1480.	0.0777	1580.	0.0958
1680.	0.1166	1780.	0.1458
1880.	0.1963	1979.	0.3192

Data set ABXMR4 (A)
Specimen no. 4 (234) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date 12-4-80
Fatigue Life 1779.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .2860 (B)
TA - .0990 (C)
TB - .1557 (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0427	900.	0.0512
1000.	0.0641	1100.	0.0765
1200.	0.0808	1280.	0.1014
1380.	0.1165	1480.	0.1394
1580.	0.1710	1680.	0.2178
1779.	0.3557		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4(A)
Specimen no. 5 (235) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 12-4-80
Fatigue Life 1579.
Failure load: A)
B)

Initiation Location(s)
—
Notes:
HA - .1092"
TA - .0782" (C)
TB - .0823" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0133	300.	0.0205
400.	0.0285	500.	0.0359
600.	0.0452	700.	0.0538
800.	0.0624	900.	0.0723
1000.	0.0846	1100.	0.1003
1200.	0.1192	1280.	0.1387
1380.	0.1654	1480.	0.2149
1579.	0.3350		

Data set ABXMR4(A)
Specimen no. 6 (236) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 12-4-80
Fatigue Life 2379.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .3003"
TA - .3111" (B)
TB - .0225" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0123	300.	0.0136
400.	0.0147	500.	0.0165
600.	0.0183	700.	0.0207
800.	0.0232	900.	0.0259
1000.	0.0312	1100.	0.0372
1200.	0.0427	1280.	0.0475
1380.	0.0563	1480.	0.0671
1580.	0.0797	1680.	0.0937
1780.	0.1104	1880.	0.1316
1980.	0.1570	2080.	0.1894
2180.	0.2332	2280.	0.2895
2379.	0.3387		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (A)	1580.	0.0169	1680.	0.0191
Specimen no. 7 (237) TA	1780.	0.0212	1880.	0.0232
Material 7475-T7351	1980.	0.0256	2080.	0.0285
Spectrum B-1 Bomber	2180.	0.0313	2280.	0.0354
Load Transfer 15%	2380.	0.0408	2480.	0.0458
Fast. type MS-90353 (1/4)	2560.	0.0507	2660.	0.0572
Stress Level 38.0 ksi	2760.	0.0649	2860.	0.0731
Test Date 12-4-80	2960.	0.0848	3060.	0.1000
Fatigue Life 3659.	3160.	0.1187	3260.	0.1415
Failure load: A)	3360.	0.1721	3460.	0.2216
B)	3560.	0.2982	3659.	0.3191

Initiation Location(s)
CORNER
Notes:
HA - .1657" (C)
HB - .2359"
TB - .2442" (C+B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (A)	400.	0.0091	500.	0.0158
Specimen no. 8 (238) HB	600.	0.0221	700.	0.0314
Material 7475-T7351	800.	0.0410	900.	0.0496
Spectrum B-1 Bomber	1000.	0.0632	1100.	0.0793
Load Transfer 15%	1200.	0.0994	1280.	0.1405
Fast. type MS-90353 (1/4)	1380.	0.1872	1480.	0.2643
Stress Level 38.0 ksi	1580.	0.3618	1629.	0.5000
Test Date 12-4-80				
Fatigue Life 1629.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA - .0384" (C)
TA - .0618" (C)
TB - .0250" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (A)	500.	0.0079	600.	0.0132
Specimen no. 9 (239) HB	700.	0.0191	800.	0.0245
Material 7475-T7351	900.	0.0305	1000.	0.0364
Spectrum B-1 Bomber	1100.	0.0445	1200.	0.0523
Load Transfer 15%	1280.	0.0605	1380.	0.0699
Fast. type MS-90353 (1/4)	1480.	0.0819	1580.	0.0941
Stress Level 38.0 Ksi	1680.	0.1094	1780.	0.1243
Test Date 12-4-80	1880.	0.1423	1980.	0.1656
Fatigue Life 2359.	2080.	0.1957	2180.	0.2327
Failure load: A)	2280.	0.2904	2359.	0.4032
B)				

Initiation Location(s)
CORNER
Notes: .2893"
HA - ~~.2843"~~ (C)
TA - .0292" (C)
TB - .1043" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (A)	700.	0.0112	800.	0.0182
Specimen no. 10 (240) HA	900.	0.0255	1000.	0.0384
Material 7475-T7351	1100.	0.0510	1200.	0.0657
Spectrum B-1 Bomber	1380.	0.0962	1480.	0.1231
Load Transfer 15%	1580.	0.1567	1680.	0.2006
Fast. type MS-90353 (1/4)	1780.	0.2797	1829.	0.3903
Stress Level 38.0 Ksi				
Test Date 12-5-80				
Fatigue Life 1829.				
Failure load: A)				
B)				

Initiation Location(s)
FAYING SURFACE (NEAR CORNER)
Notes:
HB - .0288" (C)
TA - .1233" (B)
TB - .1836" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4 (A)
Specimen no. 11 (641) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1369.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .0343" (C.S-B)
TA - <.005"
TB - <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0073	700.	0.0158
800.	0.0401	900.	0.0679
1000.	0.0979	1100.	0.1267
1200.	0.1718	1369.	0.4031

*1280 flights - 13500 flight hours = 1 service life

Data set ABXMR4 (B)
Specimen no. 33 (643) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 2379.
Failure loac: A)
B)

Initiation Location(s)
CORNER
Notes:

HB - .0879" (B)
TA - .0631" (C)
TB - .2355" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2280.	0.2624	2379.	0.4153

(FRACTURE TOO DARK TO READ)

Data set ABXMR4 (B)
Specimen no. 34 (644) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1259.
Failure loac: A)
B)

Initiation Location(s)
— BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0656	800.	0.0895
900.	0.1105	1000.	0.1402
1100.	0.1845	1259.	0.3382

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4 (B)
Specimen no. 35 (645) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 3209.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .2256" (B)
TA - .2306" (C)
TB - .1635" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0115	1100.	0.0171
1200.	0.0229	1280.	0.0281
1380.	0.0340	1480.	0.0405
1580.	0.0455	1680.	0.0521
1780.	0.0575	1880.	0.0634
1980.	0.0729	2080.	0.0816
2180.	0.0882	2280.	0.0990
2380.	0.1129	2480.	0.1272
2560.	0.1416	2660.	0.1583
2760.	0.1821	2860.	0.2107
2960.	0.2516	3060.	0.3108
3160.	0.4050	3209.	0.6134

Data set ABXMR4 (B)
Specimen no. 36 (646) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1099.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB - .0955" (B)
TA - .0233" (C)
TB - .0396" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0179	500.	0.0312
600.	0.0455	700.	0.0655
800.	0.1153	900.	0.1748
1000.	0.2696	1099.	0.4550

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4(B)
Specimen no. 37 (647) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1619.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0369	800.	0.0474
900.	0.0612	1000.	0.0810
1100.	0.1067	1200.	0.1354
1280.	0.1638	1380.	0.2039
1480.	0.2634	1580.	0.3683
1619.	0.5041		

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:
HB - .1928" (C)
TA - .2397" (B)
TB - .2871" (C)
DEBURRED HOLES

Data set ABXMR4 (B)
Specimen no. 38 (648) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1579.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0096	700.	0.0152
800.	0.0239	900.	0.0348
1000.	0.0633	1100.	0.0911
1200.	0.1202	1280.	0.1499
1380.	0.2029	1480.	0.2708
1579.	0.4151		

Initiation Location(s)
MULTI (CORNER + BORE + (C.S-B) INTERSECTION)
Notes:
HA - .1611" (C)
TA - .1791" (C)
TB - .0735" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR4 (B)
Specimen no. 39 (649) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 2479.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HB - .2101" (F.S.)
HA - .0310" (C)
TB - .0114" (B)
DEBURRED HOLES

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0169	1280.	0.0254
1380.	0.0390	1480.	0.0573
1580.	0.0798	1680.	0.1107
1780.	0.1389	1880.	0.1727
1980.	0.2122	2080.	0.2656
2180.	0.3224	2280.	0.3835
2380.	0.4559	2479.	0.6148

Data set ABXMR4 (B)
Specimen no. 40 (650) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1099.
Failure load: A)
B)

Initiation Location(s)
CORNER (MULTI)
Notes:
HB - .2587" (B)
TA - <.005"
TB - <.005"
DEBURRED

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0151	500.	0.0231
600.	0.0446	700.	0.0707
800.	0.1043	900.	0.1487
1000.	0.2216	1099.	0.3711

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (B)	400.	0.0054	500.	0.0117
Specimen no. 41 (651) HA	600.	0.0182	700.	0.0268
Material 7475-T7351	800.	0.0371	900.	0.0519
Spectrum B-1 Bomber	1000.	0.0689	1100.	0.0910
Load Transfer 15%	1200.	0.1164	1280.	0.1369
Fast. type MS-90353 (1/4)	1380.	0.1694	1480.	0.2192
Stress Level 38.0 Ksi	1580.	0.2848	1680.	0.3850
Test Date	1709.	0.5401		
Fatigue Life 1709.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI (C.S-B) INTERSECTION PLUS BORE
Notes:
HB-.3178" (C)
TA-.0219" (C)
TB-.0722" (C)
DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR4 (B)	400.	0.0269	500.	0.0407
Specimen no. 42 (652)	600.	0.0696	700.	0.1001
Material 7475-T7351	800.	0.1389	900.	0.1981
Spectrum B-1 Bomber	1000.	0.2816	1100.	0.4521
Load Transfer 15%				
Fast. type MS-90353 (1/4)				
Stress Level 38.0 Ksi				
Test Date				
Fatigue Life 1100.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI - (C.S.-B) INTERSECTION PLUS BORE
Notes:
HA-.0621" (C)
TA-<.005"
TB-.0231" (C)
DEBURRED

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR3
Specimen no. 1 (611) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1099.
Failure load: A)
B)

Initiation Location(s)
WIDE ORIGIN IN BORE
Notes:
HA-.0650"(B)
TA-.0220" (B)
TB-.0096" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0108	500.	0.0203
600.	0.0412	700.	0.0696
800.	0.1063	900.	0.1524
1000.	0.2225	1099.	0.4070

Data set ABXMR3
Specimen no. 2 (612) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1329.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA-.3241" (B)
TA-.0369" (B)
TB-.0574" (C.S.-B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0154	600.	0.0252
700.	0.0359	800.	0.0529
900.	0.0738	1000.	0.1065
1100.	0.1466	1200.	0.2034
1260.	0.2411	1329.	0.4189

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR3	300.	0.0039	400.	0.0106
Specimen no. 3 (613) HB	500.	0.0171	600.	0.0246
Material 7475-T7351	700.	0.0358	800.	0.0538
Spectrum B-1 Bomber	900.	0.0782	1000.	0.1102
Load Transfer 15%	1100.	0.1587	1200.	0.2360
Fast. type MS-90353 (3/16)	1269.	0.3610		
Stress Level 38.0 Ksi				
Test Date				
Fatigue Life 1269.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA - .1693" (C)
TA - .0703" (C)
TB - .0645" (C.S.-B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR3	300.	0.0103	400.	0.0154
Specimen no. 4 (614) HB	500.	0.0282	600.	0.0403
Material 7475-T7351	700.	0.0569	800.	0.0830
Spectrum B-1 Bomber	900.	0.1126	1000.	0.1532
Load Transfer 15%	1100.	0.2093	1200.	0.3022
Fast. type MS-90353 (3/16)	1249.	0.5146		
Stress Level 38.0 Ksi				
Test Date				
Fatigue Life 1249.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA - .0871" (C)
TA - .0824" (3)
TB - .0229" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR3	800.	0.0133	900.	0.0252
Specimen no. 5 (615) HA	1000.	0.0376	1100.	0.0493
Material 7475-T7351	1200.	0.0629	1280.	0.0777
Spectrum B-1 Bomber	1380.	0.0959	1480.	0.1206
Load Transfer 15%	1580.	0.1480	1680.	0.1793
Fast. type MS-90353 (3/16)	1780.	0.2197	1879.	0.3276
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1879.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI (CORNER + BORE)
Notes:
HB - .1481" (C)
TA - >.130" (B)
TB - .1926" (B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMR3	400.	0.0060	500.	0.0104
Specimen no. 6 (616) HB	600.	0.0239	700.	0.0369
Material 7475-T7351	800.	0.0527	900.	0.0743
Spectrum B-1 Bomber	1000.	0.1019	1100.	0.1370
Load Transfer 15%	1200.	0.1630	1280.	0.2361
Fast. type MS-90353 (3/16)	1379.	0.3411		
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1379.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI (CORNER + BORE + (C.S-B) INTERSECTION)
Notes:
HA - .0691" (B)
TA - .0330" (C)
TB - .0667" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR3
Specimen no. 7 (617) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1579.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA - .2357" (B)
TA - .0321" (B)
TB - .0672" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0069	300.	0.0130
400.	0.0180	500.	0.0253
600.	0.0335	700.	0.0445
800.	0.0590	900.	0.0762
1000.	0.0996	1100.	0.1161
1200.	0.1400	1260.	0.1599
1380.	0.2065	1480.	0.2653
1579.	0.3943		

Data set ABXMR3
Specimen no. 8 (618) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1269.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .1048" (B)
TA - .0736" (B)
TB - .0331" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0107	400.	0.0175
500.	0.0242	600.	0.0338
700.	0.0452	800.	0.0666
900.	0.0899	1000.	0.1270
1100.	0.1748	1200.	0.2524
1269.	0.5085		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMR3
Specimen no. 9 (619) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1379.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0056	400.	0.0111
500.	0.0178	600.	0.0259
700.	0.0373	800.	0.0600
900.	0.0867	1000.	0.1191
1100.	0.1572	1200.	0.2078
1280.	0.2692	1379.	0.3989

Initiation Location(s)
MULTI (CORNER PLUS BORE)
Notes:

HB-.0366" (B)
TA-.0547" (B)
TB-.1066" (B)

Data set ABXMR3
Specimen no. 10 (620) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (3/16)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1459.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0111	700.	0.0204
800.	0.0284	900.	0.0405
1000.	0.0565	1100.	0.0792
1200.	0.1095	1280.	0.1434
1360.	0.2166	1459.	0.3471

Initiation Location(s)
CORNER PLUS BORE
Notes:

HB-.3179" (B)
TA-.0518" (B)
TB-.1155" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMC4	300.	0.0138	400.	0.0210
Specimen no. 1 (527) HB	500.	0.0281	600.	0.0384
Material 7475-T7351	700.	0.0439	800.	0.0586
Spectrum B-1 Bomber	900.	0.0729	1000.	0.0925
Load Transfer 15%	1100.	0.1130	1200.	0.1349
Fast. type NAS 1580 (1/4)	1280.	0.1607	1380.	0.1936
Stress Level 38.0 Ksi	1480.	0.2451	1539.	0.3262
Test Date				
Fatigue Life 1539.				
Failure loac: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HA - .3114" (C)
TA - .1495" (C)
TB - .1165" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXMC4	200.	0.0056	300.	0.0116
Specimen no. 2 (528) TA	400.	0.0164	500.	0.0220
Material 7475-T7351	600.	0.0277	700.	0.0331
Spectrum B-1 Bomber	800.	0.0413	900.	0.0507
Load Transfer 15%	1000.	0.0651	1100.	0.0783
Fast. type NAS 1580 (1/4)	1200.	0.0981	1280.	0.1177
Stress Level 38.0 Ksi	1380.	0.1456	1480.	0.1818
Test Date	1580.	0.2212	1680.	0.2738
Fatigue Life 1779.	1779.	0.3779		
Failure load: A)				
B)				

Initiation Location(s)
CORNER (SMALL ORIGIN)
Notes:

HA - .1185" (C)
HB - .1207" (C)
TB - .1663" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMC4
Specimen no. 3 (529) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 999.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0137	500.	0.0214
600.	0.0355	700.	0.0674
800.	0.1141	900.	0.1664
999.	0.3763		

Initiation Location(s)
MULTI - (CORNER + BORE)
Notes:

HA - .1166" (C)
TA - .1918" (C)
TB - >.1883" (C)

Data set ABXMC4
Specimen no. 4 (530) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1269.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0120	300.	0.0195
400.	0.0265	500.	0.0354
600.	0.0483	700.	0.0620
800.	0.0808	900.	0.1029
1000.	0.1304	1100.	0.1726
1200.	0.2321	1269.	0.3537

Initiation Location(s)
FAYING SURFACE NEAR CORNER
Notes:

HB - .1714" (C)
TA - .0769" (C)
TB - .1309" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMC4
Specimen no. 5 (531) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 2079.
Failure loac: A)
B)

Initiation Location(s)
BORE (SMALL ORIGIN)
Notes:

HA - .1865" (C)
HB - .1614" (C)
TB - .2915" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0037	500.	0.0061
600.	0.0098	700.	0.0129
800.	0.0162	900.	0.0200
1000.	0.0264	1100.	0.0349
1200.	0.0449	1280.	0.0554
1380.	0.0683	1480.	0.0868
1580.	0.1073	1680.	0.1323
1780.	0.1637	1880.	0.1985
1980.	0.2502	2079.	0.3587

Data set ABXMC4
Specimen no. 6 (532) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 2179.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HA - .1461" (C)
TA -
TB -

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0112	800.	0.0168
900.	0.0209	1000.	0.0266
1100.	0.0337	1200.	0.0421
1280.	0.0514	1380.	0.0594
1480.	0.0728	1580.	0.0860
1680.	0.1019	1780.	0.1218
1880.	0.1455	1980.	0.1780
2080.	0.2264	2179.	0.3164

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMC4
Specimen no. 7 (533) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1739.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .0117" (C)
HB - .1340" (C)
TB - .0414" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0018	500.	0.0044
600.	0.0077	700.	0.0108
800.	0.0144	900.	0.0239
1000.	0.0326	1100.	0.0452
1200.	0.0585	1280.	0.0755
1380.	0.1041	1480.	0.1411
1580.	0.1908	1680.	0.2651
1739.	0.3859		

Data set ABXMC4
Specimen no. 8 (534) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date
Fatigue Life 1578.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .0548" (C)
HB - .0246" (C)
TA - .0689" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0081	500.	0.0127
600.	0.0175	700.	0.0238
800.	0.0254	900.	0.0413
1000.	0.0534	1100.	0.0697
1200.	0.0866	1280.	0.1103
1380.	0.1519	1480.	0.2202
1578.	0.3750		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXMC4
Specimen no. S (535) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 1709.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HA - .0129" (C)
TA - .3106" (C)
TB - .0678" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0201	600.	0.0245
700.	0.0295	800.	0.0345
900.	0.0453	1000.	0.0540
1100.	0.0678	1200.	0.0824
1280.	0.0941	1380.	0.1214
1480.	0.1508	1580.	0.1931
1680.	0.2614	1709.	0.3268

Data set ABXMC4
Specimen no. 10 (536) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date
Fatigue Life 2019.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HA - .0381" (C)
HB - .1071" (C)
TB - .0915" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0069	1000.	0.0107
1100.	0.0150	1200.	0.0204
1280.	0.0287	1380.	0.0444
1480.	0.0592	1580.	0.0782
1680.	0.1052	1780.	0.1397
1880.	0.1918	1980.	0.2714
2019.	0.3769		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHR4
Specimen no. 2 (zzi) TA2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 Ksi
Test Date 10/6/80
Fatigue Life 2589.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .3537" (C)
HB - .1007" (B)
TB - .1329" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0067	1580.	0.0114
1680.	0.0161	1780.	0.0194
1880.	0.0284	1980.	0.0422
2080.	0.0590	2180.	0.0818
2280.	0.1119	2380.	0.1577
2480.	0.2198	2589.	0.3401

Data set ABXHR4
Specimen no. 6 (zzz) HA1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 Ksi
Test Date 10/6/80
Fatigue Life 1280.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB - .0698" (B)
TB - .0708"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0115	500.	0.0151
600.	0.0232	700.	0.0301
800.	0.0390	900.	0.0480
1000.	0.0573	1100.	0.0687
1200.	0.0774	1280.	0.0834

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHR4
Specimen no. 10 (223) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 10/6/80
Fatigue Life 1099.
Failure load: A)
B)

Initiation Location(s)
—

Notes:
HA - .1906
HB - .0654
TA - .0529

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0378	500.	0.0555
600.	0.0734	700.	0.0893
800.	0.1141	900.	0.1531
1000.	0.2006	1099.	0.3180

Data set ABXHR4
Specimen no. 15 (224) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 10/16/80
Fatigue Life 939.
Failure load: A)
B)

Initiation Location(s)
—

Notes:
HB - .0772"
TA - .0393"
TB - .0490"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
100.	0.0178	200.	0.0227
300.	0.0280	400.	0.0331
500.	0.0368	600.	0.0538
700.	0.0735	800.	0.1019
900.	0.1421	939.	0.2168

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHR4
Specimen no. 18 (225) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 10/6/80
Fatigue Life 1679.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .1890" (C)
HB - .2267" (C)
TA - .2461" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0169	600.	0.0251
700.	0.0345	800.	0.0444
900.	0.0543	1000.	0.0643
1100.	0.0762	1200.	0.0906
1380.	0.1206	1480.	0.1477
1580.	0.1875	1679.	0.2635

Data set ABXHR4
Specimen no. 22 (226) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 10/6/80
Fatigue Life 1179.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB - .2944" (C)
TA - .0148" (B)
TB - .0778" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0174	300.	0.0212
400.	0.0288	500.	0.0394
600.	0.0497	700.	0.0641
800.	0.0790	900.	0.0970
1000.	0.1197	1100.	0.1533
1179.	0.2030		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXHR4	300.	0.0120	400.	0.0331
Specimen no. 26 (227) HA	500.	0.0554	600.	0.0844
Material 7475-T7351	700.	0.1257	799.	0.2303
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. type MS-90353 (1/4)				
Stress Level 40.8 ksi				
Test Date 10/7/80				
Fatigue Life 799.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HB - .0529" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXHR4	100.	0.0297	200.	0.0409
Specimen no. 29 (228) HB	300.	0.0517	400.	0.0655
Material 7475-T7351	500.	0.0811	600.	0.1036
Spectrum B-1 Bomber	700.	0.1394	800.	0.2081
Load Transfer 15%	839.	0.3190		
Fast. type MS-90353 (1/4)				
Stress Level 40.8 ksi				
Test Date 11/26/80				
Fatigue Life 839.				
Failure load: A)				
B)				

Initiation Location(s)
—
Notes:
HA - .0624" (C)
TA - .0401"
TB - .0715"

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHR4
Specimen no. 33 (229) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 11/25/80
Fatigue Life 1619.
Failure load: A)
B)

Initiation Location(s)
—

Notes:
HB - .0885"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0168	900.	0.0257
1000.	0.0358	1100.	0.0465
1200.	0.0620	1280.	0.0794
1380.	0.0996	1480.	0.1355
1580.	0.1804	1619.	0.2289

Data set ABXHR4
Specimen no. 35 (230) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 ksi
Test Date 11/25/80
Fatigue Life 2149.
Failure load: A)
B)

Initiation Location(s)
Bore
Notes:

HB - .0929" (C)
TA - .1224" (C)
TB - —

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0192	1100.	0.0255
1200.	0.0324	1280.	0.0410
1380.	0.0495	1480.	0.0588
1580.	0.0689	1680.	0.0817
1780.	0.1015	1880.	0.1262
1980.	0.1685	2080.	0.2295
2149.	0.2492		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHR4
Specimen no. 37 (640) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type MS-90353 (1/4)
Stress Level 40.8 Ksi
Test Date
Fatigue Life 975.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B INTERSECTION)
Notes:
HA - .0174" (C)
TA - .0451" (C)
TB - <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0318	500.	0.0517
600.	0.0749	700.	0.1125
800.	0.1744	900.	0.2816
975.	0.4500		

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHC4
Specimen no. 1 (537) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 710.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .1633" (C)
HB - .2337" (C)
TA - .0841" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0106	300.	0.0295
400.	0.0691	500.	0.1363
600.	0.2089	700.	0.3095
710.	0.4476		

Data set ABXHC4
Specimen no. 2 (538) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 2059.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .0337" (C)
HB - .1490" (C)
TB - .1352" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0052	700.	0.0080
800.	0.0114	900.	0.0147
1000.	0.0186	1100.	0.0225
1200.	0.0282	1280.	0.0335
1380.	0.0425	1480.	0.0553
1580.	0.0753	1680.	0.1018
1780.	0.1383	1880.	0.1838
1980.	0.2532	2059.	0.4096

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHC4
Specimen no. 3 (539) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 588.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0051	300.	0.0157
400.	0.0399	500.	0.0982
588.	0.2363		

Initiation Location(s)
MULTI (CORNER + BORE)
Notes:
FAST CRACK GROWTH RATE DUE TO CRACK FRONTS MERGED. CRACKS AT 180° ≈ SAME SIZE.

HB - <.005"
TA - .0354" (B)
TB - <.005"

Data set ABXHC4
Specimen no. 4 (540) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1169.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0039	300.	0.0099
400.	0.0187	500.	0.0298
600.	0.0425	700.	0.0639
800.	0.0866	900.	0.1142
1000.	0.1548	1100.	0.2167
1169.	0.3231		

Initiation Location(s)
CORNER
Notes:

HA - .2888" (CORNER + (C.S-b))
HB - .0603" (C)
TA - .0839" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHC4
Specimen no. 5 (541) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 1349.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA ~.0371" (C)
HB - .0850" (C)
TA - .3039" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0097	400.	0.0189
500.	0.0263	600.	0.0364
700.	0.0469	800.	0.0583
900.	0.0751	1000.	0.0987
1100.	0.1317	1200.	0.1823
1280.	0.2581	1349.	0.3649

Data set ABXHC4
Specimen no. 6 (542) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 969.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - .0378" (C)
TA - .3094" (C)
TB - .0201" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0192	400.	0.0291
500.	0.0394	600.	0.0557
700.	0.0751	800.	0.1198
900.	0.1749	969.	0.2713

*1280 flights = 13500 flight hours = 1 service life

Data set ABXHC4
Specimen no. 7 (543) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 999.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0075	500.	0.0192
600.	0.0344	700.	0.0654
800.	0.0978	900.	0.1514
999.	0.2628		

Initiation Location(s)
MULTI (CORNER PLUS BORE)
Notes:
HA - .1310" (C)
HB - .0205" (C)
TA - .1997" (B)

Data set ABXHC4
Specimen no. 8 (544) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 939.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0343	600.	0.0636
700.	0.0978	800.	0.1512
900.	0.2389	935.	0.4167

Initiation Location(s)
FAYING SURFACE (NEAR CORNER)
Notes:
HA - .1163" (C)
HB - .2112" (C)
TB - .2745" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXHC4	400.	0.0103	500.	0.0182
Specimen no. 9 (545) HB	600.	0.0354	700.	0.0618
Material 7475-T7351	800.	0.0921	900.	0.1287
Spectrum B-1 Bomber	1000.	0.1862	1069.	0.3158
Load Transfer 15%				
Fast. type NAS 1580 (1/4)				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1069.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI (CORNER PLUS BORE PLUS (C.S-B) INTERSECTION)
Notes:
HA - .1411" CC + (C.S-b)
TA - .1725" (B)
TB - .1608" (B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABXHC4	500.	0.0190	600.	0.0353
Specimen no. 10 (546) HB	700.	0.0523	800.	0.0711
Material 7475-T7351	900.	0.0911	1000.	0.1173
Spectrum B-1 Bomber	1100.	0.1462	1200.	0.1912
Load Transfer 15%	1280.	0.2964	1288.	0.3439
Fast. type NAS 1580 (1/4)				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1288.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI (CORNER PLUS BORE)
Notes:
HA - .0711" (C)
TA - .2398" (CC + (C.S-b))
TB - .0390" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	2280.	0.0203	2380.	0.0212
Specimen no. 3 (145) TB	2480.	0.0221	2660.	0.0237
Material 7475-T7351	2760.	0.0257	2860.	0.0279
Spectrum B-1 Bomber	2960.	0.0308	3060.	0.0334
Load Transfer 30%	3160.	0.0366	3260.	0.0403
Fast. type MS-90353 (1/4)	3360.	0.0446	3460.	0.0483
Stress Level 34.0 ksi	3560.	0.0535	3660.	0.0595
Test Date 7/30/80	3760.	0.0661	3840.	0.0731
Fatigue Life 3840.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

TA - .0636" (FAYING SURFACE)

HA - .0216"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	2760.	0.0525	2860.	0.0595
Specimen no. 6 (146) HB	2960.	0.0670	3060.	0.0753
Material 7475-T7351	3160.	0.0832	3260.	0.0910
Spectrum B-1 Bomber	3360.	0.0998	3460.	0.1112
Load Transfer 30%	3560.	0.1230	3660.	0.1366
Fast. type MS-90353 (1/4)	3760.	0.1480	3840.	0.1618
Stress Level 34.0 ksi	3940.	0.1825	4040.	0.2050
Test Date 7/31/80	4140.	0.2330	4240.	0.2639
Fatigue Life 4609.	4340.	0.3100	4440.	0.3730
Failure load: A)	4540.	0.4567	4609.	0.5750
B)				

Initiation Location(s)

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Notes:

TB - .2245" (F.S.)

HA - .0809" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYLR4
Specimen no. B (147) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 7/31/80
Fatigue Life 4479.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
HA - .058" (B)
TA - .0480" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0220	1480.	0.0234
1580.	0.0249	1680.	0.0264
1780.	0.0279	1880.	0.0288
1980.	0.0295	2080.	0.0309
2180.	0.0318	2280.	0.0333
2380.	0.0350	2480.	0.0378
2560.	0.0411	2660.	0.0450
2760.	0.0522	2860.	0.0592
2960.	0.0659	3060.	0.0723
3160.	0.0814	3260.	0.0909
3360.	0.1008	3460.	0.1118
3560.	0.1248	3660.	0.1396
3760.	0.1557	3840.	0.1729
3940.	0.1929	4040.	0.2112
4140.	0.2365	4240.	0.3309

Data set ABYLR4
Specimen no. 15 (148) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 7/31/80
Fatigue Life 5809.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HA - .2352"
HB - .2118" (C)
TA - .0418" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2560.	0.0181	2660.	0.0191
2760.	0.0201	2860.	0.0208
2960.	0.0218	3060.	0.0238
3160.	0.0262	3260.	0.0286
3360.	0.0316	3460.	0.0328
3560.	0.0355	3660.	0.0373
3760.	0.0401	3840.	0.0433
3940.	0.0484	4040.	0.0565
4140.	0.0612	4240.	0.0678
4340.	0.0742	4440.	0.0808
4540.	0.0894	4640.	0.0994
4740.	0.1091	4840.	0.1207
4940.	0.1462	5040.	0.1615
5120.	0.1771	5220.	0.1948
5320.	0.2180	5420.	0.2433

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	4040.	0.1572	4140.	0.1612
Specimen no. 16 (149) HA	4240.	0.1658	4340.	0.1721
Material 7475-T7351	4440.	0.1805	4540.	0.1880
Spectrum B-1 Bomber	4640.	0.1980	4740.	0.2097
Load Transfer 30%	4840.	0.2234	4940.	0.2403
Fast. type MS-90353 (1/4)	5040.	0.2619	5120.	0.3121
Stress Level 34.0 Ksi	5220.	0.3742	5320.	0.4512
Test Date 7/31/80	5359.	0.5146		
Fatigue Life 5359.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

TB – .1596"

TA – 0.0088 B

HB – 0.216B

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	1980.	0.0337	2080.	0.0367
Specimen no. 23 (150) HA	2180.	0.0406	2280.	0.0445
Material 7475-T7351	2380.	0.0484	2480.	0.0516
Spectrum B-1 Bomber	2660.	0.0596	2760.	0.0675
Load Transfer 30%	2860.	0.0739	2960.	0.0814
Fast. type MS-90353 (1/4)	3060.	0.0887	3160.	0.0972
Stress Level 34.0 Ksi	3260.	0.1080	3360.	0.1218
Test Date 7/31/80	3460.	0.1402	3560.	0.1673
Fatigue Life 3939.	3660.	0.1990	3760.	0.2407
Failure load: A)	3840.	0.2971	3939.	0.4198
B)				

Initiation Location(s)

CORNER

Notes:

TB – .0795" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYLR4
Specimen no. 24 (256) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 12/16/80
Fatigue Life 3840.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1880.	0.0065	1980.	0.0076
2080.	0.0087	2180.	0.0099
2280.	0.0110	2380.	0.0118
2480.	0.0135	2580.	0.0142
2660.	0.0153	2760.	0.0164
2860.	0.0175	2960.	0.0189
3060.	0.0199	3160.	0.0214
3260.	0.0231	3360.	0.0252
3460.	0.0271	3560.	0.0296
3660.	0.0316	3760.	0.0340
3840.	0.0366		

Initiation Location(s)
CORNER
Notes:
HA - .0143" (C)

Data set ABYLR4
Specimen no. 25 (257) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 12/15/80
Fatigue Life 2649.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0047	800.	0.0071
900.	0.0086	1000.	0.0101
1100.	0.0130	1200.	0.0162
1280.	0.0198	1380.	0.0247
1480.	0.0299	1580.	0.0374
1680.	0.0431	1780.	0.0519
1880.	0.0620	1980.	0.0766
2080.	0.0924	2180.	0.1186
2280.	0.1426	2380.	0.1691
2480.	0.2019	2649.	0.3752

Initiation Location(s)
CORNER
Notes:
SLIVER AT ORIGIN

HA - .1059" (C)
TA - .0517" (C)
TB - .1622" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	500.	0.0033	600.	0.0064
Specimen no. 26 (258) HB	700.	0.0097	800.	0.0134
Material 7475-T7351	900.	0.0172	1000.	0.0210
Spectrum B-1 Bomber	1100.	0.0278	1200.	0.0358
Load Transfer 30%	1280.	0.0446	1380.	0.0578
Fast. type MS-90353 (1/4)	1480.	0.0703	1580.	0.0862
Stress Level 34.0 Ksi	1680.	0.1029	1780.	0.1179
Test Date 12/17/80	1880.	0.1369	1980.	0.1565
Fatigue Life 2435.	2080.	0.1814	2180.	0.2104
Failure load: A)	2280.	0.2523	2380.	0.3224
B)	2439.	0.4226		

Initiation Location(s)
BOAC (NEAR (C.S-B) INTERSECTION)
Notes:

HA - .0223" (C)
TA - .0770" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLR4	1100.	0.0050	1200.	0.0084
Specimen no. 27 (259) HB	1380.	0.0137	1480.	0.0188
Material 7475-T7351	1580.	0.0239	1680.	0.0278
Spectrum B-1 Bomber	1780.	0.0324	1880.	0.0383
Load Transfer 30%	1980.	0.0450	2080.	0.0519
Fast. type MS-90353 (1/4)	2180.	0.0581	2280.	0.0656
Stress Level 34.0 Ksi	2380.	0.0740	2480.	0.0844
Test Date 12/17/80	2560.	0.0909	2660.	0.1034
Fatigue Life 3560.	2760.	0.1203	2860.	0.1348
Failure load: A)	2960.	0.1539	3060.	0.1772
B)	3160.	0.2043	3260.	0.2383
	3360.	0.2776	3460.	0.3319
Initiation Location(s)	3560.	0.4573		

CORNER
Notes:

HA - .0999" (B)
TA - .0274" (C)
TB - .3132" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	1880.	0.0124	1980.	0.0152
Specimen no. 1 (279) HA	2080.	0.0181	2180.	0.0210
Material 7475-T7351	2280.	0.0243	2380.	0.0290
Spectrum B-1 Bomber	2480.	0.0360	2560.	0.0401
Load Transfer 30%	2660.	0.0451	2760.	0.0537
Fast. type NAS 1580 (1/4)	2860.	0.0612	2960.	0.0755
Stress Level 34.0 ksi	3060.	0.0869	3160.	0.1038
Test Date 12-31-80	3260.	0.1268	3360.	0.1602
Fatigue Life 3638.	3460.	0.2090	3560.	0.2853
Failure load: A)	3638.	0.4300		
B)				

Initiation Location(s)
COUNTERSINK AREA
Notes:
HB-.084"(C) , TA-.1339"(C) , TB-.2492"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	600.	0.0142	700.	0.0180
Specimen no. 2 (280) HA	800.	0.0231	900.	0.0267
Material 7475-T7351	1000.	0.0317	1100.	0.0357
Spectrum B-1 Bomber	1200.	0.0424	1280.	0.0480
Load Transfer 30%	1380.	0.0543	1480.	0.0594
Fast. type NAS 1580 (1/4)	1580.	0.0670	1680.	0.0721
Stress Level 34.0 ksi	1780.	0.0799	1880.	0.0856
Test Date 12-31-80	1980.	0.0909	2080.	0.0976
Fatigue Life 3260.	2180.	0.1082	2280.	0.1205
Failure load: A)	2380.	0.1406	2480.	0.1650
B)	2560.	0.1795	2660.	0.1915
	2760.	0.2119	2860.	0.2301
Initiation Location(s)	2960.	0.2595	3060.	0.2942
FAYING SURFACE	3160.	0.3485	3260.	0.4458
Notes:				

HB-.0221"(C) , TA-.0348"(B) , TB-.0725"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	500.	0.0055	600.	0.0081
Specimen no. 3 (281) HA	700.	0.0108	800.	0.0131
Material 7475-T7351	900.	0.0192	1000.	0.0270
Spectrum B-1 Bomber	1100.	0.0345	1200.	0.0463
Load Transfer 30%	1280.	0.0571	1380.	0.0658
Fast. type NAS 1580 (1/4)	1480.	0.0721	1580.	0.0802
Stress Level 34.0 ksi	1680.	0.0870	1780.	0.0986
Test Date 12-31-80	1880.	0.1162	1980.	0.1358
Fatigue Life 2480.	2080.	0.1586	2180.	0.1838
Failure load: A)	2280.	0.2183	2380.	0.2690
B)	2480.	0.4067		

Initiation Location(s)
CORNER
Notes:
HA - .2121"(C), TA - .0444"(C), TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	1780.	0.0116	1880.	0.0155
Specimen no. 4 (282) TA	1980.	0.0203	2080.	0.0255
Material 7475-T7351	2180.	0.0348	2280.	0.0454
Spectrum B-1 Bomber	2380.	0.0544	2480.	0.0668
Load Transfer 30%	2560.	0.0815	2660.	0.1007
Fast. type NAS 1580 (1/4)	2760.	0.1250	2860.	0.1480
Stress Level 34.0 ksi	2960.	0.1786	3060.	0.2105
Test Date 12-31-80	3160.	0.2436	3260.	0.2883
Fatigue Life 3460.	3360.	0.3395	3460.	0.4379
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA - .0232"(C), HB - .3609"(C), TB - <.005"

*1280 flights = 13500 flight hours = 1 service life

Data set ABYLC4
Specimen no. 5 (283)TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 12-31-60
Fatigue Life 2829.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0206	1000.	0.0248
1100.	0.0297	1200.	0.0355
1280.	0.0412	1380.	0.0478
1480.	0.0545	1580.	0.0639
1680.	0.0722	1780.	0.0815
1880.	0.0959	1980.	0.1095
2080.	0.1273	2180.	0.1471
2280.	0.1709	2380.	0.1972
2480.	0.2237	2560.	0.2593
2660.	0.3008	2760.	0.3736
2829.	0.4993		

Initiation Location(s)
CORNER (BROAD)
Notes:

HA - .0917" (C)
HB - .1423" (C)
TB - .2195" (C)

Data set ABYLC4
Specimen no. 6 (284) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 1-6-61
Fatigue Life 2722.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0133	1200.	0.0172
1280.	0.0212	1380.	0.0248
1480.	0.0293	1580.	0.0336
1680.	0.0395	1780.	0.0455
1880.	0.0550	1980.	0.0688
2080.	0.0873	2180.	0.1095
2280.	0.1373	2380.	0.1716
2480.	0.2136	2560.	0.2672
2660.	0.3534	2722.	0.4771

Initiation Location(s)
CORNER
Notes:

HB - .0421" (C)
TA - .0524" (C)
TB - .1589" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	1280.	0.0045	1380.	0.0066
Specimen no. 7 (285) HA	1480.	0.0083	1580.	0.0104
Material 7475-T7351	1680.	0.0138	1780.	0.0166
Spectrum B-1 Bomber	1880.	0.0190	1980.	0.0214
Load Transfer 30%	2080.	0.0258	2180.	0.0324
Fast. type NAS 1580 (1/4)	2280.	0.0406	2380.	0.0508
Stress Level 34.0 ksi	2480.	0.0604	2560.	0.0699
Test Date 1-5-80	2660.	0.0868	2760.	0.1665
Fatigue Life 3390.	2860.	0.1277	2960.	0.1514
Failure load: A)	3060.	0.1781	3160.	0.2131
B)	3260.	0.2574	3360.	0.3345
	3390.	0.4302		

Initiation Location(s)
CORNER
Notes:
HB-.0455"(C), TA-.0098"(C), TB-.2444"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	2280.	0.0188	2380.	0.0208
Specimen no. 8 (286)TB	2480.	0.0228	2560.	0.0257
Material 7475-T7351	2660.	0.0284	2760.	0.0309
Spectrum B-1 Bomber	2860.	0.0343	2960.	0.0368
Load Transfer 30%	3060.	0.0408	3160.	0.0449
Fast. type NAS 1580 (1/4)	3260.	0.0507	3360.	0.0561
Stress Level 34.0 ksi	3460.	0.0642	3560.	0.0713
Test Date 1-5-80	3660.	0.0802	3760.	0.0895
Fatigue Life 3840.	3840.	0.0979		
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA-.0912"(C), HB-.0597"(C), TA-.0329"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	900.	0.0246	1000.	0.0284
Specimen no. 9 (287) HA	1100.	0.0325	1200.	0.0375
Material 7475-T7351	1280.	0.0444	1380.	0.0546
Spectrum B-1 Bomber	1480.	0.0646	1580.	0.0789
Load Transfer 30%	1680.	0.0907	1780.	0.1084
Fast. type NAS 1580 (1/4)	1880.	0.1276	1980.	0.1485
Stress Level 34.0 ksi	2080.	0.1752	2180.	0.2111
Test Date 1-5-80	2280.	0.2716	2329.	0.3613
Fatigue Life 2329.				
Failure load: A)				
B)				

Initiation Location(s)
COUNTERSINK AREA (NEAR (C.S.-B) INTERSECTION)
Notes:

HB-.0926" (C), TA-.0184" (C), TB-.3647" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYLC4	300.	0.0126	400.	0.0168
Specimen no. 10 (288)	500.	0.0239	600.	0.0281
Material 7475-T7351	700.	0.0338	800.	0.0430
Spectrum B-1 Bomber	900.	0.0510	1000.	0.0591
Load Transfer 30%	1100.	0.0698	1200.	0.0834
Fast. type NAS 1580 (1/4)	1280.	0.0978	1380.	0.1134
Stress Level 34.0 ksi.	1480.	0.1377	1580.	0.1664
Test Date 1-5-80	1680.	0.2013	1780.	0.2489
Fatigue Life 1991.	1880.	0.3078	1980.	0.3883
Failure load: A)	1991.	0.4019		
B)				

Initiation Location(s)
MULTI ORIGINS IN COUNTERSINK AREA
Notes:

HA-.1090" (C)
TA-.0143" (C)
TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	2080.	0.0281	2180.	0.0299
Specimen no. 1 (151) HB	2280.	0.0311	2380.	0.0329
Material 7475-T7351	2480.	0.0350	2660.	0.0409
Spectrum B-1 Bomber	2760.	0.0437	2860.	0.0463
Load Transfer 30%	2960.	0.0500	3060.	0.0525
Fast. type MS-90353 (1/4)	3160.	0.0561	3260.	0.0595
Stress Level 36.0 Ksi	3360.	0.0631	3460.	0.0667
Test Date 8-1-80	3560.	0.0701	3660.	0.0748
Fatigue Life 3840.	3760.	0.0780	3840.	0.0828
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

TB - .0355" (F.S), HA - .0523"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	400.	0.0046	500.	0.0065
Specimen no. 2 (260) HA	600.	0.0138	700.	0.0152
Material 7475-T7351	800.	0.0256	900.	0.0308
Spectrum B-1 Bomber	1000.	0.0396	1100.	0.0467
Load Transfer 30%	1200.	0.0566	1260.	0.0641
Fast. type MS-90353 (1/4)	1360.	0.0767	1460.	0.0877
Stress Level 36.0 Ksi	1560.	0.1023	1680.	0.1152
Test Date 12/17/80	1780.	0.1280	1880.	0.1373
Fatigue Life 2380.	1980.	0.1522	2080.	0.1647
Failure load: A)	2180.	0.1960	2280.	0.2523
B)	2380.	0.3861		

Initiation Location(s)
CORNER
Notes:

TA - .0238" (C), HB - .0222 (C.S.-B),

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMR4
Specimen no. 3 (261) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-17-80
Fatigue Life 3549.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0036	500.	0.0062
600.	0.0090	700.	0.0122
800.	0.0152	900.	0.0190
1000.	0.0238	1100.	0.0274
1200.	0.0312	1280.	0.0356
1380.	0.0399	1480.	0.0432
1580.	0.0472	1680.	0.0524
1780.	0.0564	1880.	0.0596
1980.	0.0632	2080.	0.0671
2180.	0.0720	2280.	0.0770
2380.	0.0825	2480.	0.0872
2560.	0.0930	2660.	0.0999
2760.	0.1091	2860.	0.1196
2960.	0.1297	3060.	0.1451
3160.	0.1644	3260.	0.1895
3360.	0.2245	3460.	0.2834
3549.	0.4203		

TA - .2777"(C), HA - .0753"(F.S.), TB - .0228"(C)

Data set ABYMR4
Specimen no. 4 (262) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-17-80
Fatigue Life 2180.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0033	300.	0.0061
400.	0.0090	500.	0.0130
600.	0.0165	700.	0.0205
800.	0.0252	900.	0.0314
1000.	0.0379	1100.	0.0427
1200.	0.0516	1280.	0.0599
1380.	0.0673	1480.	0.0798
1580.	0.0950	1680.	0.1136
1780.	0.1348	1880.	0.1687
1980.	0.2008	2080.	0.2544
2180.	0.3617		

HB - .1476"(C), HA - .0896"(C), TB - .0321"(B),

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	900.	0.0425	1000.	0.0538
Specimen no. 5 (263) HB	1100.	0.0693	1200.	0.0846
Material 7475-T7351	1280.	0.0972	1380.	0.1335
Spectrum B-1 Bomber	1480.	0.1886	1580.	0.2950
Load Transfer 30%	1599.	0.3878		
Fast. type MS-90353 (1/4)				
Stress Level 36.0 ksi				
Test Date 12-18-80				
Fatigue Life 1599.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI: BORE, (C.S.-B)
Notes:
HA - .0240", TB - .0385" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	500.	0.0069	600.	0.0108
Specimen no. 6 (264) TA	700.	0.0153	800.	0.0213
Material 7475-T7351	900.	0.0263	1000.	0.0325
Spectrum B-1 Bomber	1100.	0.0379	1200.	0.0426
Load Transfer 30%	1280.	0.0507	1380.	0.0595
Fast. type MS-90353 (1/4)	1480.	0.0693	1580.	0.0814
Stress Level 36.0 ksi	1680.	0.0961	1780.	0.1137
Test Date 12-18-80	1880.	0.1335	1980.	0.1573
Fatigue Life 2380.	2080.	0.1848	2180.	0.2217
Failure load: A)	2280.	0.2676	2380.	0.3343
B)				

Initiation Location(s)
CORNER
Notes:

HA - .0795" (C), HB - .2905" (C), TB - .0145" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	600.	0.0061	700.	0.0096
Specimen no. 7 (265) HA	800.	0.0116	900.	0.0142
Material 7475-T7351	1000.	0.0190	1100.	0.0211
Spectrum B-1 Bomber	1200.	0.0241	1280.	0.0277
Load Transfer 30%	1380.	0.0317	1480.	0.0370
Fast. type MS-90353 (1/4)	1580.	0.0415	1680.	0.0475
Stress Level 36.0 ksi	1780.	0.0532	1880.	0.0593
Test Date 12-18-80	1980.	0.0650	2080.	0.0736
Fatigue Life 3009.	2180.	0.0830	2280.	0.0933
Failure load: A)	2380.	0.1043	2480.	0.1151
B)	2560.	0.1303	2660.	0.1457
	2760.	0.1731	2860.	0.2084
Initiation Location(s)	2960.	0.2754	3009.	0.3991
CORNER				
Notes:				

HB-.0356"(C), TA-.0459"(C), TB-.2080"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR4	800.	0.0063	900.	0.0093
Specimen no. B (266) HA	1000.	0.0130	1100.	0.0166
Material 7475-T7351	1200.	0.0205	1280.	0.0245
Spectrum B-1 Bomber	1380.	0.0303	1480.	0.0406
Load Transfer 30%	1580.	0.0503	1680.	0.0576
Fast. type MS-90353 (1/4)	1780.	0.0700	1880.	0.0858
Stress Level 36.0 ksi	1980.	0.1053	2080.	0.1313
Test Date 12-18-80	2180.	0.1638	2280.	0.2124
Fatigue Life 2309.	2309.	0.3064		
Failure load: A)				
B)				
Initiation Location(s)				
MULTI: CORNER, (C.S-B)				
Notes:				

HB-.0279"(C), TA-.0281"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMR4
Specimen no. 9 (267)TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 12-31-80
Fatigue Life 3035.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0100	1200.	0.0134
1280.	0.0170	1380.	0.0204
1480.	0.0257	1580.	0.0313
1680.	0.0380	1780.	0.0444
1880.	0.0492	1980.	0.0610
2080.	0.0728	2180.	0.0858
2280.	0.1030	2380.	0.1214
2480.	0.1465	2560.	0.1724
2660.	0.2023	2760.	0.2464
2860.	0.3126	2960.	0.4159
3035.	0.4520		

Initiation Location(s)
CORNER
Notes:
TB - .2404" (C), HA - .0880" (C), HB - .0409" (C.S-B)

Data set ABYMR4
Specimen no. 10 (268)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type MS-90353 (1/4)
Stress Level ?
Test Date 12-31-80
Fatigue Life 469.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size

MECHANICAL PROBLEMS WITH SPECIMEN (LOADS ARE NOT KNOWN)

Initiation Location(s)

Notes:

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	800.	0.0148	900.	0.0201
Specimen no. 1 (269) HB	1000.	0.0264	1100.	0.0318
Material 7475-T7351	1200.	0.0406	1280.	0.0506
Spectrum B-1 Bomber	1380.	0.0634	1480.	0.0749
Load Transfer 30%	1580.	0.0898	1680.	0.1064
Fast. type MS-90353 (3/16)	1780.	0.1249	1880.	0.1494
Stress Level 36.0 ksi	1980.	0.1731	2080.	0.2150
Test Date 1-9-81	2180.	0.2660	2280.	0.3662
Fatigue Life 2280.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA-.3133"(C), TA-.0139"(C), TB-.0246"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	1200.	0.0042	1280.	0.0075
Specimen no. 2 (270) HB	1380.	0.0132	1480.	0.0181
Material 7475-T7351	1580.	0.0284	1680.	0.0386
Spectrum B-1 Bomber	1780.	0.0501	1880.	0.0620
Load Transfer 30%	1980.	0.0745	2080.	0.0948
Fast. type MS-90353 (3/16)	2180.	0.1256	2280.	0.1664
Stress Level 36.0 ksi	2380.	0.2151	2480.	0.2927
Test Date 1-9-81	2520.	0.3668		
Fatigue Life 2520.				
Failure load: A)				
B)				

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA-.3505"(C), TA-.0125"(C), TB-.0247"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	200.	0.0077	300.	0.0140
Specimen no. 3 (271) HB	400.	0.0237	500.	0.0298
Material 7475-T7351	600.	0.0377	700.	0.0479
Spectrum B-1 Bomber	800.	0.0595	900.	0.0822
Load Transfer 30%	1000.	0.1049	1100.	0.1346
Fast. type MS-90353 (3/16)	1200.	0.1786	1280.	0.2535
Stress Level 36.0 ksi	1380.	0.3574	1409.	0.4854
Test Date 1-9-81				
Fatigue Life 1409.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA-.0271"(C), TA-.0132"(C), TB-.0146"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	600.	0.0144	700.	0.0192
Specimen no. 4 (272) HB	800.	0.0252	900.	0.0306
Material 7475-T7351	1000.	0.0366	1100.	0.0418
Spectrum B-1 Bomber	1200.	0.0479	1280.	0.0553
Load Transfer 30%	1380.	0.0631	1480.	0.0723
Fast. type MS-90353 (3/16)	1580.	0.0838	1680.	0.0986
Stress Level 36.0 ksi	1780.	0.1143	1880.	0.1341
Test Date 1-9-81	1980.	0.1590	2080.	0.1928
Fatigue Life 2380.	2180.	0.2376	2280.	0.2978
Failure load: A)	2380.	0.4377		
B)				

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA-.0532", TA-.0259"(C), TB-.0389"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	900.	0.0145	1000.	0.0197
Specimen no. 5 (293) HA	1100.	0.0258	1200.	0.0355
Material 7475-T7351	1280.	0.0383	1380.	0.0458
Spectrum B-1 Bomber	1480.	0.0550	1580.	0.0646
Load Transfer 30%	1680.	0.0734	1780.	0.0806
Fast. type MS-90353 (3/16)	1880.	0.0890	1980.	0.1063
Stress Level 36.0 ksi	2080.	0.1241	2180.	0.1447
Test Date 1-9-81	2280.	0.1771	2380.	0.2180
Fatigue Life 2580.	2480.	0.2790	2560.	0.3735
Failure load: A)	2580.	0.4005		
B)				

Initiation Location(s)
CORNER
Notes:
HB-.2384", TA-.0062"(C), TB-.0071"(B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	1480.	0.0089	1580.	0.0140
Specimen no. 6 (294) HB	1680.	0.0180	1780.	0.0233
Material 7475-T7351	1880.	0.0294	1980.	0.0357
Spectrum B-1 Bomber	2080.	0.0456	2180.	0.0577
Load Transfer 30%	2280.	0.0706	2380.	0.0843
Fast. type MS-90353 (3/16)	2480.	0.1093	2560.	0.1367
Stress Level 36.0 ksi	2660.	0.1697	2760.	0.2261
Test Date 1-12-81	2860.	0.3258	2899.	0.4653
Fatigue Life 2899.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA-.1048"(C), TA-.0109"(C), TB-.0023"(B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	1780.	0.0088	1880.	0.0134
Specimen no. 7 (275) HB	1980.	0.0178	2080.	0.0261
Material 7475-T7351	2180.	0.0343	2280.	0.0466
Spectrum B-1 Bomber	2380.	0.0597	2480.	0.0743
Load Transfer 30%	2560.	0.0916	2660.	0.1063
Fast. type MS-90353 (3/16)	2760.	0.1411	2860.	0.1791
Stress Level 36.0 ksi	2960.	0.2345	3060.	0.3561
Test Date 1-12-81				
Fatigue Life 3060.				
Failure load: A)				
B)				

Initiation Location(s)

BORE

Notes:

HA-.1845"(C), TA-.0659"(C), TB-.0505"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	1100.	0.0152	1200.	0.0191
Specimen no. 10 (276A)	1280.	0.0230	1380.	0.0274
Material 7475-T7351	1480.	0.0308	1580.	0.0349
Spectrum B-1 Bomber	1680.	0.0398	1780.	0.0442
Load Transfer 30%	1880.	0.0518	1980.	0.0578
Fast. type MS-90353 (3/16)	2080.	0.0648	2180.	0.0780
Stress Level 36.0 ksi	2280.	0.0950	2380.	0.1125
Test Date 1-12-81	2409.	0.1212		
Fatigue Life 2409.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

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*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	1380.	0.0072	1480.	0.0091
Specimen no. 8 (277) HA	1580.	0.0112	1680.	0.0140
Material 7475-T7351	1780.	0.0174	1880.	0.0214
Spectrum B-1 Bomber	1980.	0.0261	2080.	0.0351
Load Transfer 30%	2180.	0.0442	2280.	0.0555
Fast. type MS-90353 (3/16)	2380.	0.0689	2480.	0.0816
Stress Level 36.0 ksi	2560.	0.0959	2660.	0.1230
Test Date 1-12-81	2760.	0.1549	2860.	0.1929
Fatigue Life 3085.	2960.	0.2443	3060.	0.3197
Failure load: A)	3085.	0.3533		
B)				

Initiation Location(s)
BORE
Notes:

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMR3	600.	0.0105	700.	0.0158
Specimen no. 9 (278) HA	800.	0.0207	900.	0.0263
Material 7475-T7351	1000.	0.0351	1100.	0.0448
Spectrum B-1 Bomber	1200.	0.0536	1380.	0.0736
Load Transfer 30%	1480.	0.0839	1580.	0.0987
Fast. type MS-90353 (3/16)	1680.	0.1180	1780.	0.1467
Stress Level 36.0 ksi	1880.	0.1796	1980.	0.2272
Test Date 1-12-81	2080.	0.2977	2180.	0.4870
Fatigue Life 2180.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HB-.1380"(C), TA-.0724"(C), TB-.0204" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMC4
Specimen no. 1 (289) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 1-5-81
Fatigue Life 2229.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0103	1000.	0.0130
1100.	0.0168	1200.	0.0233
1280.	0.0284	1380.	0.0346
1480.	0.0451	1580.	0.0567
1680.	0.0710	1780.	0.0958
1880.	0.1213	1980.	0.1618
2080.	0.2034	2180.	0.2756
2225.	0.3705		

Initiation Location(s)
CORNER (BROAD)
Notes:
HA - .3762" [C + (C.S-B)]
HB - .0793" (C)
TA - .1308" (C)

Data set ABYMC4
Specimen no. 2 (290) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 1-5-81
Fatigue Life 3060.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0087	1100.	0.0151
1200.	0.0227	1280.	0.0309
1380.	0.0371	1480.	0.0461
1580.	0.0598	1680.	0.0617
1780.	0.0697	1880.	0.0782
1980.	0.0874	2080.	0.0969
2180.	0.1064	2280.	0.1182
2380.	0.1329	2480.	0.1467
2560.	0.1603	2660.	0.1825
2760.	0.2107	2860.	0.2434
2960.	0.2945	3060.	0.4306

Initiation Location(s)
CORNER
Notes:
HB - .1017" (C)
TA - .1302" (C)
TB - .0055" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMC4
Specimen no. 3 (291) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 ksi
Test Date 1-5-81
Fatigue Life 2359.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0108	800.	0.0149
900.	0.0178	1000.	0.0209
1100.	0.0244	1200.	0.0311
1280.	0.0376	1380.	0.0470
1480.	0.0569	1580.	0.0663
1680.	0.0798	1780.	0.0972
1880.	0.1224	1980.	0.1506
2080.	0.1904	2180.	0.2544
2280.	0.2834	2359.	0.4870

Initiation Location(s)
COUNTERSINK AREA
Notes:
HB - .0268" (B)
TA - .0134" (C)
TB - <.005"

Data set ABYMC4
Specimen no. 4 (292) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 ksi
Test Date 1-5-81
Fatigue Life 2019.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0074	600.	0.0119
700.	0.0171	800.	0.0234
900.	0.0287	1000.	0.0343
1100.	0.0407	1200.	0.0476
1280.	0.0541	1380.	0.0640
1480.	0.0789	1580.	0.0969
1680.	0.1217	1780.	0.1554
1880.	0.2011	1980.	0.2781
2019.	0.3710		

Initiation Location(s)
CORNER
Notes:
HA - .3205" (C)
HB - .0720" (C)
TA - .0685" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMC4
Specimen no. 5 (293) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 1-5-81
Fatigue Life 1839.
Failure load: A)
B)

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:
HA - .0933" (C)
TA - .0137" (C)
TB - .0156" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0104	600.	0.0152
700.	0.0192	800.	0.0245
900.	0.0319	1000.	0.0439
1100.	0.0559	1200.	0.0711
1280.	0.0914	1380.	0.1108
1480.	0.1390	1580.	0.1739
1680.	0.2195	1780.	0.2918
1839.	0.4495		

Data set ABYMC4
Specimen no. 6 (294) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 36.0 Ksi
Test Date 1-5-81
Fatigue Life 2619.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HB - .039" (C.S-B)
TA - .2656" (C)
TB - .2680" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0112	700.	0.0154
800.	0.0185	900.	0.0233
1000.	0.0274	1100.	0.0325
1200.	0.0397	1380.	0.0564
1480.	0.0637	1580.	0.0718
1680.	0.0822	1780.	0.0915
1880.	0.1040	1980.	0.1187
2080.	0.1336	2180.	0.1551
2280.	0.1782	2380.	0.2037
2480.	0.2421	2560.	0.3079
2619.	0.3772		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC4	500.	0.0115	600.	0.0165
Specimen no. 7 (295) HA	700.	0.0226	800.	0.0306
Material 7475-T7351	900.	0.0396	1000.	0.0508
Spectrum B-1 Bomber	1100.	0.0651	1200.	0.0852
Load Transfer 30%	1280.	0.1021	1380.	0.1325
Fast. type NAS 1580 (1/4)	1480.	0.1742	1580.	0.2423
Stress Level 36.0 ksi	1639.	0.3940		
Test Date 1-7-81				
Fatigue Life 1639.				
Failure load: A)				
B)				

Initiation Location(s)
NEAR (C.S-B) INTERSECTION - BROAD ORIGIN
Notes:

HB - .1336" (C)
TA - .1080" (C)
TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC4	400.	0.0158	500.	0.0222
Specimen no. 8 (296) HA	600.	0.0297	700.	0.0375
Material 7475-T7351	800.	0.0444	900.	0.0545
Spectrum B-1 Bomber	1000.	0.0642	1100.	0.0775
Load Transfer 30%	1200.	0.0883	1280.	0.0984
Fast. type NAS 1580 (1/4)	1380.	0.1116	1480.	0.1219
Stress Level 36.0 ksi	1580.	0.1343	1680.	0.1462
Test Date 1-7-81	1780.	0.1667	1880.	0.1884
Fatigue Life 2280.	1980.	0.2144	2080.	0.2477
Failure load: A)	2180.	0.2981	2280.	0.4554
B)				

Initiation Location(s)
MULTI - CORNER + FAYING SURFACE
Notes:

HB - .0313" (C)
TA - .0298" (C)
TB - .1085" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC4	400.	0.0017	500.	0.0030
Specimen no. 9 (297) HA	600.	0.0058	700.	0.0093
Material 7475-T7351	800.	0.0138	900.	0.0211
Spectrum B-1 Bomber	1000.	0.0275	1100.	0.0361
Load Transfer 30%	1200.	0.0456	1280.	0.0564
Fast. type NAS 1580 (1/4)	1380.	0.0697	1480.	0.0914
Stress Level 36.0 Ksi	1580.	0.1126	1680.	0.1358
Test Date 1-7-81	1780.	0.1611	1880.	0.1884
Fatigue Life 2180.	1980.	0.2257	2080.	0.2705
Failure load: A)	2180.	0.3572		
B)				

Initiation Location(s)
CORNER
Notes:
HB - .2023"(C)
TA - .0912"(C)
TB - .1172"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC4	1100.	0.0192	1200.	0.0227
Specimen no. 10 (298) HA	1280.	0.0262	1380.	0.0311
Material 7475-T7351	1480.	0.0410	1580.	0.0528
Spectrum B-1 Bomber	1680.	0.0615	1780.	0.0736
Load Transfer 30%	1880.	0.0838	1980.	0.0956
Fast. type NAS 1580 (1/4)	2080.	0.1074	2180.	0.1231
Stress Level 36.0 Ksi	2280.	0.1390	2380.	0.1630
Test Date 1-7-81	2480.	0.1844	2560.	0.2086
Fatigue Life 2849.	2660.	0.2511	2760.	0.3128
Failure load: A)	2849.	0.4702		
B)				

Initiation Location(s)
COUNTERSINK AREA
Notes:

HB - .1934"(C)
TA - .0276"(C)
TB - .0478"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	300.	0.0129	400.	0.0169
Specimen no. 1 (309) HA	500.	0.0203	600.	0.0243
Material 7475-T7351	700.	0.0321	800.	0.0374
Spectrum B-1 Bomber	900.	0.0442	1000.	0.0521
Load Transfer 30%	1100.	0.0599	1200.	0.0746
Fast. type NAS 1580 (3/16)	1280.	0.0932	1380.	0.1182
Stress Level 36.0 ksi	1480.	0.1529	1580.	0.1911
Test Date 1-13-81	1680.	0.2497	1780.	0.3484
Fatigue Life 1809.	1809.	0.4479		
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:
HB - .0613" (C), TA - .1173" (F.S.), TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	700.	0.0285	800.	0.0367
Specimen no. 2 (310) HB	900.	0.0427	1000.	0.0476
Material 7475-T7351	1100.	0.0533	1200.	0.0574
Spectrum B-1 Bomber	1280.	0.0630	1380.	0.0729
Load Transfer 30%	1460.	0.0857	1580.	0.1050
Fast. type NAS 1580 (3/16)	1680.	0.1265	1780.	0.1559
Stress Level 36.0 ksi	1880.	0.1909	1980.	0.2436
Test Date 1-13-81	2080.	0.3362	2119.	0.4225
Fatigue Life 2119.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HA - .0251" (B), TA - .2112" (B), TB - .0109" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMC3
Specimen no. 3 (311) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (3/16)
Stress Level 36.0 ksi
Test Date 1-13-81
Fatigue Life 3207.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0082	1580.	0.0111
1680.	0.0144	1780.	0.0175
1880.	0.0232	1980.	0.0275
2080.	0.0348	2180.	0.0436
2280.	0.0500	2380.	0.0623
2480.	0.0770	2580.	0.0932
2660.	0.1112	2760.	0.1342
2860.	0.1624	2960.	0.2005
3060.	0.2594	3160.	0.3478
3207.	0.5150		

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA - .1632"(C), HB - .0983"(C), TB - .1486"(C)

Data set ABYMC3
Specimen no. 4 (312) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (3/16)
Stress Level 36.0 ksi
Test Date 1-13-81
Fatigue Life 2480.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0174	1000.	0.0252
1100.	0.0362	1200.	0.0473
1380.	0.0639	1480.	0.0718
1580.	0.0816	1680.	0.0931
1780.	0.1064	1880.	0.1194
1980.	0.1364	2080.	0.1584
2180.	0.1835	2280.	0.2208
2380.	0.2727	2480.	0.3878

Initiation Location(s)
CORNER
Notes:
HB - .1253"(C), TA - <.005", TB - .005"(B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	1000.	0.0126	1100.	0.0166
Specimen no. 5 (3/3) HA	1200.	0.0228	1280.	0.0278
Material 7475-T7351	1380.	0.0324	1480.	0.0361
Spectrum B-1 Bomber	1580.	0.0466	1680.	0.0589
Load Transfer 30%	1780.	0.0701	1880.	0.0811
Fast. type NAS 1580 (3/16)	1980.	0.0964	2080.	0.1145
Stress Level 36.0 ksi	2180.	0.1355	2280.	0.1697
Test Date 1-13-81	2380.	0.2050	2480.	0.2485
Fatigue Life 2660.	2560.	0.2860	2660.	0.4355
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HB- <.005", TA -.1418"(C) TB-.0129"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	1000.	0.0108	1100.	0.0172
Specimen no. 6 (3/4) HA	1200.	0.0265	1280.	0.0359
Material 7475-T7351	1380.	0.0477	1480.	0.0610
Spectrum B-1 Bomber	1580.	0.0790	1680.	0.1016
Load Transfer 30%	1780.	0.1329	1880.	0.1801
Fast. type NAS 1580 (3/16)	1980.	0.2547	2049.	0.3940
Stress Level 36.0 ksi				
Test Date 1-14-81				
Fatigue Life 2049.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:

HB-.0824"(C), TA -.0468"(C), TB -.0138"(C).

*1280 flights = 13500 flight hours = 1 service life

Data set ABYMC3
Specimen no. 7 (315) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (3/16)
Stress Level 36.0 Ksi
Test Date 1-14-81
Fatigue Life 2229.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0074	1100.	0.0136
1200.	0.0197	1280.	0.0256
1380.	0.0343	1480.	0.0463
1580.	0.0587	1680.	0.0723
1780.	0.0910	1880.	0.1171
1980.	0.1540	2080.	0.2031
2180.	0.2906	2229.	0.4207

Initiation Location(s)
CORNER
Notes:
HB -.1670"(C), TA -.0079" (B), TB-.0622" (C)

Data set ABYMC3
Specimen no. 8 (316) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (3/16)
Stress Level 36.0 Ksi
Test Date 1-14-81
Fatigue Life 2579.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0122	900.	0.0175
1000.	0.0244	1100.	0.0295
1200.	0.0359	1280.	0.0421
1380.	0.0484	1480.	0.0565
1580.	0.0673	1680.	0.0784
1780.	0.0931	1880.	0.1106
1980.	0.1321	2080.	0.1611
2180.	0.1881	2280.	0.2234
2380.	0.2726	2480.	0.3361
2579.	0.5096		

Initiation Location(s)
CORNER
Notes:
HB - .0798"(B), TA -.0885"(C), TB -.0715"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	1580.	0.0218	1680.	0.0244
Specimen no. 9 (317) HA	1780.	0.0265	1880.	0.0285
Material 7475-T7351	1980.	0.0314	2080.	0.0335
Spectrum B-1 Bomber	2180.	0.0351	2280.	0.0375
Load Transfer 30%	2380.	0.0404	2480.	0.0438
Fast. type NAS 1580 (3/16)	2560.	0.0465	2660.	0.0494
Stress Level 36.0 ksi	2760.	0.0536	2860.	0.0575
Test Date 1-14-81	2960.	0.0628	3060.	0.0709
Fatigue Life 3840.	3160.	0.0792	3260.	0.0903
Failure load: A)	3360.	0.1019	3460.	0.1166
B)	3560.	0.1337	3660.	0.1589
	3760.	0.1938	3840.	0.2264

Initiation Location(s)
FAYING SURFACE (NEAR CORNER)
Notes:

HB-.0772"(C), TA-.1821"(B), TB-.0508"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYMC3	1280.	0.0278	1380.	0.0333
Specimen no. 10 (318) HA	1480.	0.0384	1580.	0.0431
Material 7475-T7351	1680.	0.0471	1780.	0.0535
Spectrum B-1 Bomber	1880.	0.0617	1980.	0.0690
Load Transfer 30%	2080.	0.0786	2180.	0.0939
Fast. type NAS 1580 (3/16)	2280.	0.1057	2380.	0.1241
Stress Level 36.0 ksi	2480.	0.1501	2560.	0.1796
Test Date 1-14-81	2660.	0.2369	2760.	0.3471
Fatigue Life 2760.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HB-.0535"(C), TA-<.005", TB-.0139"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1980.	0.0652	2080.	0.0780
Specimen no. 18 (152)TB	2180.	0.0889	2280.	0.1023
Material 7475-T7351	2380.	0.1200	2480.	0.1390
Spectrum B-1 Bomber	2560.	0.1622	2660.	0.1906
Load Transfer 30%	2760.	0.2326	2860.	0.2859
Fast. type MS-90353 (1/4)				
Stress Level 38.0 ksi				
Test Date 8-4-80				
Fatigue Life 2860.				
Failure load: A)				
B)				

Initiation Location(s)

CORNER

Notes:

HB -.0456" , HA -.1394" (C) , TA -.2162" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1200.	0.0486	1380.	0.0598
Specimen no. 8 (153) TB	1480.	0.0657	1580.	0.0735
Material 7475-T7351	1680.	0.0836	1780.	0.0948
Spectrum B-1 Bomber	1880.	0.1094	1980.	0.1264
Load Transfer 30%	2080.	0.1457	2180.	0.1660
Fast. type MS-90353 (1/4)	2280.	0.1940	2380.	0.2220
Stress Level 38.0 ksi	2480.	0.2569	2560.	0.2996
Test Date 8-4-80	2659.	0.3619		
Fatigue Life 2659.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

HB -.0498" (C) , HA -.2804" , TA -.014" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1280.	0.0698	1380.	0.0796
Specimen no. 12 (154) HB	1480.	0.0891	1580.	0.0993
Material 7475-T7351	1680.	0.1124	1780.	0.1277
Spectrum B-1 Bomber	1880.	0.1465	1980.	0.1723
Load Transfer 30%	2080.	0.2085	2180.	0.2646
Fast. type MS-90353 (1/4)	2280.	0.3544	2369.	0.3814
Stress Level 38.0 ksi				
Test Date 8-4-80				
Fatigue Life 2369.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA-,0850"(C),

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	700.	0.0628	800.	0.0753
Specimen no. 12 (155) HA	900.	0.0924	1000.	0.1080
Material 7475-T7351	1100.	0.1307	1200.	0.1660
Spectrum B-1 Bomber	1280.	0.2451	1349.	0.3731
Load Transfer 30%				
Fast. type MS-90353 (1/4)				
Stress Level 38.0 ksi				
Test Date 8-4-80				
Fatigue Life 1349.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1280.	0.0208	1380.	0.0241
Specimen no. 14 (156) TA	1480.	0.0341	1580.	0.0438
Material 7475-T7351	1680.	0.0530	1780.	0.0638
Spectrum B-1 Bomber	1880.	0.0691	1980.	0.0921
Load Transfer 30%	2080.	0.1231	2180.	0.1561
Fast. type MS-90353 (1/4)	2280.	0.1952	2380.	0.2641
Stress Level 38.0 ksi	2480.	0.3950	2559.	0.4740
Test Date 8-4-80				
Fatigue Life 2559.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:
HB -.0813" (B), TB-.0311" (B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	300.	0.0061	400.	0.0108
Specimen no. 19 (251) HA	500.	0.0143	600.	0.0178
Material 7475-T7351	700.	0.0207	800.	0.0267
Spectrum B-1 Bomber	900.	0.0326	1000.	0.0390
Load Transfer 30%	1100.	0.0451	1200.	0.0562
Fast. type MS-90353 (1/4)	1380.	0.0878	1480.	0.1046
Stress Level 38.0 ksi	1580.	0.1241	1680.	0.1524
Test Date 12-8-80	1780.	0.1893	1880.	0.2589
Fatigue Life 2038.	1980.	0.3681	2039.	0.4555
Failure load: A)				
B)				

Initiation Location(s)
MULTI! BORE
Notes:
HB - .0739" (C), TA - .0196" (B), TB - .0117" (C)
SPECIMEN WAS SECTIONED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1200.	0.0189	1380.	0.0261
Specimen no. 20 (252) TA	1480.	0.0331	1580.	0.0388
Material 7475-T7351	1680.	0.0440	1780.	0.0503
Spectrum 8-1 Bomber	1880.	0.0559	1980.	0.0614
Load Transfer 30%	2080.	0.0660	2180.	0.0728
Fast. type MS-90353 (1/4)	2280.	0.0813	2380.	0.0875
Stress Level 38.0 ksi	2480.	0.0943	2660.	0.1097
Test Date 12-15-80	2760.	0.1170	2860.	0.1300
Fatigue Life 3478.	2960.	0.1447	3060.	0.1602
Failure load: A)	3160.	0.1790	3260.	0.2003
B)	3360.	0.2287	3460.	0.2609
	3478.	0.2665		

Initiation Location(s)
CORNER
Notes:

HA-.3623"(C) HB-.0871"(C),
SPECIMEN WAS DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1000.	0.0128	1100.	0.0168
Specimen no. 21 (253) HA	1200.	0.0196	1280.	0.0250
Material 7475-T7351	1380.	0.0301	1480.	0.0360
Spectrum 8-1 Bomber	1580.	0.0451	1680.	0.0567
Load Transfer 30%	1780.	0.0682	1880.	0.0791
Fast. type MS-90353 (1/4)	1980.	0.0904	2080.	0.1038
Stress Level 38.0 ksi	2180.	0.1209	2280.	0.1445
Test Date 12-15-80	2380.	0.1759	2480.	0.2268
Fatigue Life 2589.	2560.	0.3374	2589.	0.4348
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HB-.1547"(C), TA-.1878"(C), TB-.1161"(C)
SPECIMEN WAS DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	1580.	0.0132	1680.	0.0169
Specimen no. 22 (254) TA	1780.	0.0221	1880.	0.0271
Material 7475-T7351	1980.	0.0318	2080.	0.0368
Spectrum B-1 Bomber	2180.	0.0435	2280.	0.0513
Load Transfer 30%	2380.	0.0607	2480.	0.0699
Fast. type MS-90353 (1/4)	2660.	0.0873	2760.	0.0997
Stress Level 38.0 ksi	2960.	0.1117	2960.	0.1322
Test Date 12-15-80	3060.	0.1567	3160.	0.1918
Fatigue Life 3260.	3260.	0.2507		
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HA - .1573" (C) TB - .1690" (C)
SPECIMEN WAS DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHR4	300.	0.0074	400.	0.0141
Specimen no. 23 (255) HB	500.	0.0211	600.	0.0294
Material 7475-T7351	700.	0.0369	800.	0.0490
Spectrum B-1 Bomber	900.	0.0676	1000.	0.0868
Load Transfer 30%	1100.	0.1009	1200.	0.1272
Fast. type MS-90353 (1/4)	1280.	0.1797	1380.	0.2727
Stress Level 38.0 ksi	1480.	0.3671	1529.	0.4132
Test Date 12-15-80				
Fatigue Life 1529.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER (WIDE SLIVER AT ORIGIN)
Notes:

TB - .026" (C)
SPECIMEN WAS DEBURRED

*1280 flights = 13500 flight hours = 1 service life

Data set ABYHC4
Specimen no. 1 (299) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-7-81
Fatigue Life 890.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0251	400.	0.0492
500.	0.0681	600.	0.0957
700.	0.1330	800.	0.1879
890.	0.3343		

Initiation Location(s)
MULTI : FAYING SURFACE, BORE, & COUNTERSINK AREA
Notes:
HA - .0425" (C)
TA - <.005"
TB - <.005"

Data set ABYHC4
Specimen no. 2 (300) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-6-81
Fatigue Life 928.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0168	400.	0.0286
500.	0.0525	600.	0.0846
700.	0.1206	800.	0.1711
900.	0.2684	928.	0.4037

Initiation Location(s)
BROAD ORIGIN AT COUNTERSINK - BORE INTERSECTION
Notes:

HA - <.005"
TA - .0233" (C)
TB - .0630" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABYHC4
Specimen no. 3 (301)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 1626.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0077	500.	0.0141
600.	0.0193	700.	0.0282
800.	0.0410	900.	0.0557
1000.	0.0709	1100.	0.0901
1200.	0.1104	1280.	0.1306
1380.	0.1629	1480.	0.2059
1580.	0.2876	1626.	0.3847

Initiation Location(s)
MULTI : BORE, (C.S-B) INTERSECTION
Notes:
HA - .2226" (B)
TA - .0511" (C)
TB - .0991" (C)

Data set ABYHC4
Specimen no. 4 (302) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 1539.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0130	700.	0.0226
800.	0.0322	900.	0.0420
1000.	0.0599	1100.	0.0796
1200.	0.1002	1280.	0.1576
1380.	0.2114	1480.	0.2865
1539.	0.4296		

Initiation Location(s)
BORE
Notes:
HB - .1734" (C.S.-B)
TA - <.005"
TB - <.005"

*1280 flights = 13500 flight hours = 1 service life

Data set ABYHC4
Specimen no. 5 (303) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 899.
Failure load: A)
B)

Initiation Location(s)
CORNER PLUS (C.S-B) INTERSECTION
Notes:

HB- .0325" (C.S.-B)
TA- .0339" (C)
TB- <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0229	500.	0.0479
600.	0.0795	700.	0.1178
800.	0.1716	899.	0.2815

Data set ABYHC4
Specimen no. 6 (304) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 3119.
Failure load: A)
B)

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0080	500.	0.0116
600.	0.0136	700.	0.0159
800.	0.0182	900.	0.0213
1000.	0.0239	1100.	0.0259
1200.	0.0292	1280.	0.0311
1380.	0.0339	1480.	0.0377
1580.	0.0416	1680.	0.0460
1780.	0.0500	1880.	0.0561
1980.	0.0626	2080.	0.0686
2180.	0.0756	2280.	0.0853
2380.	0.0935	2480.	0.1060
2560.	0.1150	2660.	0.1317
2760.	0.1505	2860.	0.1784
2960.	0.2195	3060.	0.2876
3119.	0.3846		

HB-.2107" (C), TA-.0487" (B), TB-.0045" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHC4	300.	0.0128	400.	0.0274
Specimen no. 7 (305) HB	500.	0.0453	600.	0.0694
Material 7475-T7351	700.	0.0965	800.	0.1355
Spectrum B-1 Bomber	900.	0.2018	1000.	0.3717
Load Transfer 30%				
Fast. type NAS 1580 (1/4)				
Stress Level 38.0 Ksi				
Test Date 1-6-81				
Fatigue Life 1000.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HA-.1354"(C), TA-.0332"(C), TB-.0166"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHC4	700.	0.0105	800.	0.0152
Specimen no. 8 (306) HB	900.	0.0216	1000.	0.0284
Material 7475-T7351	1100.	0.0342	1200.	0.0403
Spectrum B-1 Bomber	1280.	0.0469	1380.	0.0552
Load Transfer 30%	1480.	0.0678	1580.	0.0779
Fast. type NAS 1580 (1/4)	1680.	0.0934	1780.	0.1085
Stress Level 38.0 Ksi	1880.	0.1294	1980.	0.1593
Test Date 1-6-81	2080.	0.1960	2180.	0.2504
Fatigue Life 2254.	2254.	0.3559		
Failure load: A)				
B)				

Initiation Location(s)
MULTI: CORNER PLUS BORE
Notes:

HA-.1954"(C), TA-.0875"(C), TB-.1589"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHC4	400.	0.0072	500.	0.0148
Specimen no. 9 (307) HA	600.	0.0231	700.	0.0351
Material 7475-T7351	800.	0.0502	900.	0.0685
Spectrum B-1 Bomber	1000.	0.0895	1100.	0.1329
Load Transfer 30%	1200.	0.1833	1380.	0.3337

Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 1380.
Failure load: A)
B)

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:

HB - .0462" (C)
TA - .0761" (C)
TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABYHC4	400.	0.0175	500.	0.0284
Specimen no. 10 (308) HB	600.	0.0402	700.	0.0522
Material 7475-T7351	800.	0.0709	900.	0.0963
Spectrum B-1 Bomber	1000.	0.1303	1100.	0.1682
Load Transfer 30%	1200.	0.2306	1280.	0.3817

Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-8-81
Fatigue Life 1280.
Failure load: A)
B)

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:

HA - .0785" (C)
TA - .0172" (B)
TB - .0650" (C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLR4
Specimen no. 1 (339) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-21-81
Fatigue Life 3840.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1880.	0.0370	1980.	0.0412
2080.	0.0459	2180.	0.0497
2280.	0.0554	2380.	0.0616
2480.	0.0668	2560.	0.0716
2660.	0.0759	2760.	0.0818
2860.	0.0864	2960.	0.0956
3060.	0.1039	3160.	0.1133
3260.	0.1232	3360.	0.1342
3460.	0.1480	3560.	0.1633
3660.	0.1812	3760.	0.2100
3840.	0.2395		

Initiation Location(s)
MULTI: FAYING SURFACE
Notes:
HA - .1053" (C.S-B), TA - <.005", TB - <.005"

Data set ABZLR4
Specimen no. 2 (340) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-21-81
Fatigue Life 3840.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1780.	0.0230	1880.	0.0255
1980.	0.0277	2080.	0.0310
2180.	0.0340	2280.	0.0374
2380.	0.0408	2480.	0.0446
2560.	0.0472	2660.	0.0500
2760.	0.0534	2860.	0.0576
2960.	0.0619	3060.	0.0664
3160.	0.0711	3260.	0.0755
3360.	0.0820	3460.	0.0888
3560.	0.0969	3660.	0.1030
3760.	0.1124	3840.	0.1241

Initiation Location(s)
CORNER
Notes:
HA - <.005", HB - <.005", TA - .0160" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLR4	1680.	0.0162	1780.	0.0221
Specimen no. 3 (341) TA	1880.	0.0276	1980.	0.0322
Material 7475-T7351	2080.	0.0387	2180.	0.0452
Spectrum B-1 Bomber	2280.	0.0524	2380.	0.0579
Load Transfer 40%	2480.	0.0641	2580.	0.0725
Fast. type MS-90353 (1/4)	2680.	0.0823	2780.	0.0936
Stress Level 34.0 Ksi	2880.	0.1068	2980.	0.1217
Test Date 1-22-81	3080.	0.1368	3180.	0.1542
Fatigue Life 3660.	3280.	0.1745	3380.	0.2005
Failure load: A)	3480.	0.2338	3580.	0.2827
B)	3660.	0.3645		

Initiation Location(s)
CORNER
Notes:
HA-.0978"(C), HB-.0869"(C), TB-.3236"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLR4	1100.	0.0042	1200.	0.0077
Specimen no. 4 (342) HB	1280.	0.0112	1380.	0.0141
Material 7475-T7351	1480.	0.0186	1580.	0.0224
Spectrum B-1 Bomber	1680.	0.0260	1780.	0.0310
Load Transfer 40%	1880.	0.0349	1980.	0.0398
Fast. type MS-90353 (1/4)	2080.	0.0441	2180.	0.0488
Stress Level 34.0 Ksi	2280.	0.0552	2380.	0.0609
Test Date 1-22-81	2480.	0.0661	2580.	0.0716
Fatigue Life 3719.	2680.	0.0784	2780.	0.0865
Failure load: A)	2880.	0.0952	2980.	0.1057
B)	3080.	0.1165	3180.	0.1313
	3280.	0.1521	3380.	0.1732
Initiation Location(s)	3480.	0.2013	3580.	0.2412
CORNER	3680.	0.3070	3719.	0.4244
Notes:				

HA-.0272"(C), TA-<.005", TB-.0056"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLR4
Specimen no. 5 (343) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date 1-22-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HA - <.005", TA - <.005", TB - <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0096	1580.	0.0108
1680.	0.0125	1780.	0.0135
1880.	0.0148	1980.	0.0164
2080.	0.0182	2180.	0.0196
2280.	0.0213	2380.	0.0225
2480.	0.0260	2560.	0.0279
2660.	0.0293	2760.	0.0315
2860.	0.0336	2960.	0.0359
3060.	0.0374	3160.	0.0389
3260.	0.0408	3360.	0.0422
3460.	0.0443	3560.	0.0468
3660.	0.0505	3760.	0.0544
3840.	0.0585		

Data set ABZLR4
Specimen no. 6 (344) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 Ksi
Test Date 1-22-81
Fatigue Life 1939.
Failure load: A)
B)

Initiation Location(s)
(C.S-B) BROAD ORIGIN
Notes:
HB - .0425"(C), TA - .0186"(C), TB - <.005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0165	800.	0.0253
900.	0.0339	1000.	0.0420
1100.	0.0505	1200.	0.0590
1280.	0.0832	1380.	0.1006
1480.	0.1232	1580.	0.1577
1680.	0.1981	1780.	0.2504
1880.	0.3246	1939.	0.4733

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLR4
Specimen no. 7 (345) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-22-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

HA - .1459" (C), TA - <.005"
TB - .0687" (F.S.)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0021	900.	0.0037
1000.	0.0050	1100.	0.0063
1200.	0.0076	1280.	0.0093
1380.	0.0110	1480.	0.0127
1580.	0.0144	1680.	0.0156
1780.	0.0174	1880.	0.0206
1980.	0.0227	2080.	0.0246
2180.	0.0278	2280.	0.0320
2380.	0.0357	2480.	0.0415
2560.	0.0460	2660.	0.0500
2760.	0.0559	2860.	0.0630
2960.	0.0696	3060.	0.0770
3160.	0.0846	3260.	0.0927
3360.	0.1016	3460.	0.1134
3560.	0.1261	3660.	0.1414
3760.	0.1591	3840.	0.1766

Data set ABZLR4
Specimen no. B (346) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-22-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HB - .0903" (C), TA - .0361" (C), TB - < .005"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0071	1380.	0.0080
1480.	0.0098	1580.	0.0116
1680.	0.0136	1780.	0.0157
1880.	0.0182	1980.	0.0216
2080.	0.0256	2180.	0.0285
2280.	0.0311	2380.	0.0345
2480.	0.0361	2560.	0.0408
2660.	0.0436	2760.	0.0480
2860.	0.0521	2960.	0.0575
3060.	0.0631	3160.	0.0691
3260.	0.0743	3360.	0.0807
3460.	0.0881	3560.	0.0966
3660.	0.1041	3760.	0.1124
3840.	0.1222		

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLR4
Specimen no. 9 (347) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-26-81
Fatigue Life 3840.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2660.	0.1772	2760.	0.1794
2860.	0.1813	2960.	0.1841
3060.	0.1875	3160.	0.1912
3260.	0.1941	3360.	0.1975
3460.	0.2022	3560.	0.2075
3660.	0.2150	3760.	0.2259
3840.	0.2380		

Initiation Location(s)
FAYING SURFACE
Notes:
HA - .1319" (C), TA - <.005", TB - <.005"

Data set ABZLR4
Specimen no. 10 (348) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 34.0 ksi
Test Date 1-26-81
Fatigue Life 3840.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2760.	0.0472	2860.	0.0502
2960.	0.0529	3060.	0.0560
3160.	0.0584	3260.	0.0610
3360.	0.0650	3460.	0.0690
3560.	0.0728	3660.	0.0770
3760.	0.0815	3840.	0.0861

Initiation Location(s)
FAYING SURFACE
Notes:

HB - .0962" (C.S.), TA - <.005", TB - .0835" (F.S.)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLC4	1100.	0.0086	1200.	0.0136
Specimen no. 1 (369) TA	1280.	0.0178	1380.	0.0255
Material 7475-T7351	1480.	0.0330	1580.	0.0396
Spectrum B-1 Bomber	1680.	0.0453	1780.	0.0531
Load Transfer 40%	1880.	0.0617	1980.	0.0734
Fast. type NAS 1580 (1/4)	2080.	0.0864	2180.	0.1055
Stress Level 34.0 Ksi	2280.	0.1294	2380.	0.1570
Test Date 2-2-81	2480.	0.1947	2560.	0.2327
Fatigue Life 2760.	2660.	0.2857	2760.	0.4027
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HA - .1893" (C.S-B), HB - .0761" (C), TB - .0525" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLC4	600.	0.0083	700.	0.0109
Specimen no. 2 (370) HA	800.	0.0147	900.	0.0188
Material 7475-T7351	1000.	0.0226	1100.	0.0290
Spectrum B-1 Bomber	1200.	0.0274	1280.	0.0307
Load Transfer 40%	1380.	0.0339	1480.	0.0375
Fast. type NAS 1580 (1/4)	1580.	0.0410	1680.	0.0449
Stress Level 34.0 Ksi	1780.	0.0494	1880.	0.0544
Test Date 2-2-81	1980.	0.0599	2080.	0.0654
Fatigue Life 3629.	2180.	0.0717	2280.	0.0791
Failure load: A)	2380.	0.0859	2480.	0.0929
B)	2560.	0.0990	2660.	0.1064
	2760.	0.1152	2860.	0.1243
Initiation Location(s)	2960.	0.1362	3060.	0.1498
(C.S.-B)	3160.	0.1645	3260.	0.1829
Notes:	3360.	0.2082	3460.	0.2433

HB - .2212" (C.S-B), TA - .0179" (B), TB - .0604" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLC4	400.	0.0107	500.	0.0137
Specimen no. 3 (371) #A	600.	0.0166	700.	0.0199
Material 7475-T7351	800.	0.0238	900.	0.0291
Spectrum B-1 Bomber	1000.	0.0345	1100.	0.0423
Load Transfer 40%	1200.	0.0501	1280.	0.0576
Fast. type NAS 1580 (1/4)	1380.	0.0692	1480.	0.0881
Stress Level 34.0 ksi	1580.	0.1098	1680.	0.1308
Test Date 2-2-81	1780.	0.1557	1880.	0.1839
Fatigue Life 2148.	1980.	0.2256	2080.	0.2956
Failure load: A)	2148.	0.5589		
B)				

Initiation Location(s)
MULTI: (C.S.-B), BORE
Notes:
HB-.0628"(C.S.-B), TA-.0465"(C), TB-<.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZLC4	200	0.0063	300.	0.0112
Specimen no. 4 (372) #A	400.	0.0176	500.	0.0253
Material 7475-T7351	600.	0.0361	700.	0.0468
Spectrum B-1 Bomber	800.	0.0605	900.	0.0783
Load Transfer 40%	1000.	0.0993	1100.	0.1258
Fast. type NAS 1580 (1/4)	1200.	0.1615	1280.	0.2134
Stress Level 34.0 ksi	1380.	0.2985	1419.	0.4064
Test Date 2-2-81				
Fatigue Life 1419.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S.-B)
Notes:
HB-.1953"(C.S.-B), TA-.0133"(C), TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLC4
Specimen no. 5 (373)HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-2-81
Fatigue Life 1969.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0080	500.	0.0127
600.	0.0184	700.	0.0234
800.	0.0311	900.	0.0375
1000.	0.0428	1100.	0.0494
1200.	0.0617	1280.	0.0714
1380.	0.0886	1480.	0.1091
1580.	0.1324	1680.	0.1621
1780.	0.1993	1880.	0.2578
1969.	0.4149		

Initiation Location(s)
(C.S.-B)
Notes:
HB- .3133"(C.S.-B), TA- .1106"(C), TB- <.005"

Data set ABZLC4
Specimen no. 6 (374) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-2-81
Fatigue Life 1819.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0238	800.	0.0284
900.	0.0361	1000.	0.0456
1100.	0.0572	1200.	0.0767
1280.	0.0950	1380.	0.1179
1480.	0.1456	1580.	0.1861
1680.	0.2411	1780.	0.3350
1819.	0.4194		

Initiation Location(s)
COUNTERSINK AREA (BROAD ORIGIN)
Notes:
HA- .0604"(C.S.-B), TA- <.005", TB- .0616"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLC4
Specimen no. 7 (375) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-6-81
Fatigue Life 3085.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:

HB - .3145" (C.S-B), TA - .1492" (C), TB - .2015" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1000.	0.0180	1100.	0.0206
1200.	0.0233	1280.	0.0254
1380.	0.0284	1480.	0.0311
1580.	0.0346	1680.	0.0379
1780.	0.0424	1880.	0.0485
1980.	0.0514	2080.	0.0598
2180.	0.0680	2280.	0.0788
2380.	0.0910	2480.	0.1052
2560.	0.1203	2660.	0.1401
2760.	0.1720	2860.	0.2168
2960.	0.2738	3060.	0.3484
3085.	0.3633		

Data set ABZLC4
Specimen no. B (376) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-6-81
Fatigue Life 2860.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

HA - .1921" (C.S-B), TA - .0420" (C), TB - .1980" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0381	1280.	0.0491
1380.	0.0512	1480.	0.0587
1580.	0.0689	1680.	0.0765
1780.	0.0876	1880.	0.0971
1980.	0.1074	2080.	0.1173
2180.	0.1322	2280.	0.1495
2380.	0.1692	2480.	0.1920
2560.	0.2150	2660.	0.2521
2760.	0.3075	2860.	0.4610

*1280 flights = 13500 flight hours = 1 service life

Data set ABZLC4
Specimen no. 9 (377) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-6-81
Fatigue Life 1869.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0069	500.	0.0120
600.	0.0190	700.	0.0263
800.	0.0336	900.	0.0441
1000.	0.0544	1100.	0.0647
1200.	0.0762	1280.	0.0883
1380.	0.1021	1480.	0.1228
1580.	0.1530	1680.	0.1918
1780.	0.2570	1869.	0.4197

Initiation Location(s)
BORE
Notes:

HA-.0604"(C.S.-B), TA-.0669"(C), TB-.2160"(C)

Data set ABZLC4
Specimen no. 10 (378) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 2-6-81
Fatigue Life 1778.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0178	600.	0.0236
700.	0.0294	800.	0.0365
900.	0.0450	1000.	0.0568
1100.	0.0731	1200.	0.0937
1280.	0.1168	1380.	0.1425
1480.	0.1798	1580.	0.2261
1680.	0.2948	1778.	0.4498

Initiation Location(s)
BORE
Notes:

HA-.0855"(C.S-B), TA-.0938"(C), TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	300.	0.0066	400.	0.0110
Specimen no. 1 (329) HB	500.	0.0163	600.	0.0228
Material 7475-T7351	700.	0.0376	800.	0.0529
Spectrum B-1 Bomber	900.	0.0699	1000.	0.0865
Load Transfer 40%	1100.	0.1062	1200.	0.1355
Fast. type MS-90353 (1/4)	1280.	0.1807	1380.	0.2234
Stress Level 36.0 ksi	1480.	0.3737		
Test Date 1-19-81				
Fatigue Life 1480.				
Failure load: A)				
B)				

Initiation Location(s)
BORE (NEAR CORNER)
Notes:
HA - <.005", TA - <.005", TB - <.005"
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	2480.	0.0851	2560.	0.0882
Specimen no. 2 (330) TA	2660.	0.0916	2760.	0.0952
Material 7475-T7351	2860.	0.0999	2960.	0.1075
Spectrum B-1 Bomber	3060.	0.1158	3160.	0.1233
Load Transfer 40%	3260.	0.1353	3360.	0.1507
Fast. type MS-90353 (1/4)	3460.	0.1675	3560.	0.1890
Stress Level 36.0 ksi	3660.	0.2119	3760.	0.2408
Test Date 1-19-81	3840.	0.2699		
Fatigue Life 3840.				
Failure load: A)				
B)				

Initiation Location(s)
FAYING SURFACE
Notes:
HA - .0755" (F.S.), HB - .1123" (C), TB - .0115" (C)
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	1200.	0.0124	1280.	0.0143
Specimen no. 3 (331) HA	1380.	0.0175	1480.	0.0201
Material 7475-T7351	1580.	0.0232	1680.	0.0265
Spectrum B-1 Bomber	1780.	0.0299	1880.	0.0336
Load Transfer 40%	1980.	0.0363	2080.	0.0408
Fast. type MS-90353 (1/4)	2180.	0.0457	2280.	0.0513
Stress Level 36.0 ksi	2380.	0.0573	2480.	0.0652
Test Date 1-19-81	2560.	0.0785	2660.	0.0897
Fatigue Life 3619.	2760.	0.1028	2860.	0.1172
Failure load: A)	2960.	0.1335	3060.	0.1508
B)	3160.	0.1761	3260.	0.2019
	3360.	0.2346	3460.	0.2776
Initiation Location(s)	3560.	0.3555	3619.	0.5067

CORNER

Notes:

HOLES WERE DEBURRED

HB-.0920"(C), TA-.0896"(C), TB-.0117"(B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	400.	0.0142	500.	0.0206
Specimen no. 4 (332) HB	600.	0.0269	700.	0.0332
Material 7475-T7351	800.	0.0423	900.	0.0513
Spectrum B-1 Bomber	1000.	0.0583	1100.	0.0692
Load Transfer 40%	1200.	0.0800	1280.	0.0918
Fast. type MS-90353 (1/4)	1380.	0.1070	1480.	0.1240
Stress Level 36.0 ksi	1580.	0.1475	1680.	0.1744
Test Date 1-19-81	1780.	0.2072	1880.	0.2513
Fatigue Life 2019.	1980.	0.3298	2019.	0.4464
Failure load: A)				
B)				

Initiation Location(s)

CORNER

Notes:

HOLE'S WERE DEBURRED

HA-.1446"(C), TA-.0603"(C), TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	2760.	0.1207	2860.	0.1319
Specimen no. 5 (333) TB	2960.	0.1431	3060.	0.1595
Material 7475-T7351	3160.	0.1862	3260.	0.2142
Spectrum B-1 Bomber	3360.	0.2502	3460.	0.2954
Load Transfer 40%	3560.	0.3539		
Fast. type MS-90353 (1/4)				
Stress Level 36.0 ksi				
Test Date 1-20-81				
Fatigue Life 3560.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI! CORNER, FAYING SURFACE
Notes:
HA-.3043"(B), HB-.0021"(C), TA-<.005"
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMR4	600.	0.0180	700.	0.0203
Specimen no. 6 (334) HA	800.	0.0233	900.	0.0273
Material 7475-T7351	1000.	0.0319	1100.	0.0368
Spectrum B-1 Bomber	1200.	0.0448	1280.	0.0528
Load Transfer 40%	1380.	0.0649	1480.	0.0750
Fast. type MS-90353 (1/4)	1580.	0.0882	1680.	0.0995
Stress Level 36.0 ksi	1780.	0.1148	1880.	0.1314
Test Date 1-20-81	1980.	0.1518	2080.	0.1733
Fatigue Life 2564.	2180.	0.2024	2280.	0.2383
Failure load: A)	2380.	0.2832	2480.	0.3495
B)	2560.	0.4571	2564.	0.5010

Initiation Location(s)
CORNER
Notes:
HB-.0659"(C), TA-.0562"(C), TB-<.005"
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

Data set ABZMR4
Specimen no. 7 (335) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 1-20-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
MULTI! CORNER, FAYING SURFACE
Notes:
HOLES WERE DEBURRED

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0051	800.	0.0089
900.	0.0128	1000.	0.0174
1100.	0.0210	1200.	0.0250
1280.	0.0303	1380.	0.0358
1480.	0.0410	1580.	0.0469
1680.	0.0526	1780.	0.0578
1880.	0.0625	1980.	0.0672
2080.	0.0711	2180.	0.0761
2280.	0.0805	2380.	0.0838
2480.	0.0877	2560.	0.0936
2660.	0.1003	2760.	0.1059
2860.	0.1126	2960.	0.1205
3060.	0.1282	3160.	0.1387
3260.	0.1485	3360.	0.1587
3460.	0.1705	3560.	0.1839
3660.	0.1973	3760.	0.2141
3840.	0.2294		

HA-.0311"(C), TA-<.005", TB-.0981"(C)

Data set ABZMR4
Specimen no. 8 (336) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 1-21-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:
HOLES WERE DEBURRED

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2380.	0.0154	2480.	0.0178
2560.	0.0207	2660.	0.0236
2760.	0.0261	2860.	0.0283
2960.	0.0309	3060.	0.0338
3160.	0.0374	3260.	0.0401
3360.	0.0424	3460.	0.0455
3560.	0.0486	3660.	0.0527
3760.	0.0574	3840.	0.0622

HA-.0469"(C), HB-.0585"(C), TA-.0167"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZMR4
Specimen no. 9 (337) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 1-21-81
Fatigue Life 1100.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0283	500.	0.0458
600.	0.0630	700.	0.0836
800.	0.1182	900.	0.1637
1000.	0.2293	1100.	0.3807

Initiation Location(s)
MULTI: CORNER, COUNTERSINK AREA (BROAD, PROBABLY DUE TO SCRATCH)
Notes:
HOLES WERE DEBURRED

HB-.0225"(C), TA-<.005", TB-<.005"

Data set ABZMR4
Specimen no. 10 (338) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 36.0 ksi
Test Date 1-21-81
Fatigue Life 1899.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0414	500.	0.0516
600.	0.0596	700.	0.0689
800.	0.0755	900.	0.0833
1000.	0.0933	1100.	0.1044
1200.	0.1177	1280.	0.1305
1380.	0.1472	1480.	0.1666
1580.	0.1932	1680.	0.2285
1780.	0.2849	1880.	0.3965
1899.	0.5627		

Initiation Location(s)
MATING SURFACE
Notes:
HOLES WERE DEBURRED
HA-.0103"(B), TA-<.005", TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	700.	0.0135	800.	0.0227
Specimen no. 1 (359) HA	900.	0.0326	1000.	0.0427
Material 7475-T7351	1100.	0.0554	1200.	0.0709
Spectrum B-1 Bomber	1280.	0.1050	1380.	0.1520
Load Transfer 40%	1480.	0.2005	1579.	0.3112
Fast. type NAS 1580 (1/4)				
Stress Level 36.0 ksi				
Test Date 1-28-81				
Fatigue Life 1579.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S.-B)
Notes:
HB-.1993"(C), TA-.0731"(C), TB-.0362"(C.S-B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	300.	0.0142	400.	0.0181
Specimen no. 2 (360) TA	500.	0.0223	600.	0.0266
Material 7475-T7351	700.	0.0331	800.	0.0384
Spectrum B-1 Bomber	900.	0.0463	1000.	0.0540
Load Transfer 40%	1100.	0.0632	1200.	0.0752
Fast. type NAS 1580 (1/4)	1280.	0.0902	1380.	0.1167
Stress Level 36.0 ksi	1480.	0.1391	1580.	0.1628
Test Date 1-28-81	1680.	0.1912	1780.	0.2216
Fatigue Life 2179.	1880.	0.2578	1980.	0.2962
Failure load: A)	2080.	0.3505	2179.	0.4937
B)				

Initiation Location(s)
CORNER
Notes:
HA-.1725"(B), HB-.0219"(C.S.-B), TB-.2406"(C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	1100.	0.0113	1200.	0.0142
Specimen no. 3 (361) TB	1280.	0.0173	1380.	0.0237
Material 7475-T7351	1480.	0.0304	1580.	0.0370
Spectrum B-1 Bomber	1680.	0.0437	1780.	0.0545
Load Transfer 40%	1880.	0.0642	1980.	0.0808
Fast. type NAS 1580 (1/4)	2080.	0.1057	2180.	0.1336
Stress Level 36.0 ksi	2280.	0.1708	2380.	0.2270
Test Date 1-28-81	2480.	0.3102	2519.	0.4073
Fatigue Life 2519.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HA-.3642"(CS), HB-.1329"(C), TA-.2148"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	200.	0.0121	300.	0.0161
Specimen no. 4 (362) HA	400.	0.0203	500.	0.0261
Material 7475-T7351	600.	0.0333	700.	0.0409
Spectrum B-1 Bomber	800.	0.0509	900.	0.0619
Load Transfer 40%	1000.	0.0723	1100.	0.0898
Fast. type NAS 1580 (1/4)	1200.	0.1136	1280.	0.1395
Stress Level 36.0 ksi	1380.	0.1661	1480.	0.2024
Test Date 1-28-81	1580.	0.2534	1680.	0.3302
Fatigue Life 1739.	1739.	0.5026		
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

HB-.0575"(C), TA-.0683"(C), TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

Data set ABZMC4
Specimen no. 10 (363B)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-29-81
Fatigue Life 1679.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0254	1000.	0.0381
1100.	0.0513	1200.	0.0647
1280.	0.0831	1380.	0.1130
1480.	0.1509	1580.	0.1998
1679.	0.3112		

Data set ABZMC4
Specimen no. 5 (364.)HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-29-81
Fatigue Life 1429.
Failure load: A)
B)

Initiation Location(s)
MULTI: FAYING SURFACE, BORE
Notes:
HA-.1163"(C.S.-B), TA-.0285"(C), TB-.0134"(C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0142	600.	0.0190
700.	0.0242	800.	0.0399
900.	0.0571	1000.	0.0753
1100.	0.0983	1200.	0.1208
1280.	0.1520	1380.	0.2028
1429.	0.3039		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	400.	0.0137	500.	0.0188
Specimen no. 6 (365) HB	600.	0.0242	700.	0.0291
Material 7475-T7351	800.	0.0383	900.	0.0434
Spectrum B-1 Bomber	1000.	0.0514	1100.	0.0621
Load Transfer 40%	1200.	0.0773	1280.	0.0908
Fast. type NAS 1580 (1/4)	1380.	0.1087	1480.	0.1346
Stress Level 36.0 ksi	1580.	0.1705	1680.	0.2255
Test Date 1-29-81	1780.	0.3248	1789.	0.4282
Fatigue Life 1789.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S.-B)
Notes:
HA-.0176" (C.S.-B), TA-.0130"(C), TB-.0438"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	300.	0.0110	400.	0.0201
Specimen no. 8 (366) HA	500.	0.0301	600.	0.0398
Material 7475-T7351	700.	0.0574	800.	0.0841
Spectrum B-1 Bomber	900.	0.1169	1000.	0.1553
Load Transfer 40%	1100.	0.2155	1189.	0.3457
Fast. type NAS 1580 (1/4)				
Stress Level 36.0 ksi				
Test Date 1-29-81				
Fatigue Life 1189.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S.-B)
Notes:
HB-.0356" (C.S.-B), TA-.0954"(C), TB-<.005"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	400.	0.0196	500.	0.0363
Specimen no. 7 (367) HA	600.	0.0658	700.	0.0991
Material 7475-T7351	800.	0.1327	900.	0.1693
Spectrum B-1 Bomber	1000.	0.2293	1089.	0.4227
Load Transfer 40%				
Fast. type NAS 1580 (1/4)				
Stress Level 36.0 ksi				
Test Date 1-29-81				
Fatigue Life 1089.				
Failure load: A)				
B)				

Initiation Location(s)
BORE (BROAD ORIGIN)
Notes:

HB-.1491"(C.S.-B), TA-.1242"(C), TB-.0343"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZMC4	700.	0.0329	800.	0.0397
Specimen no. 9 (368) HB	900.	0.0481	1000.	0.0549
Material 7475-T7351	1100.	0.0628	1200.	0.0711
Spectrum B-1 Bomber	1280.	0.0824	1380.	0.0907
Load Transfer 40%	1480.	0.1040	1580.	0.1140
Fast. type NAS 1580 (1/4)	1680.	0.1240	1780.	0.1368
Stress Level 36.0 ksi	1880.	0.1539	1980.	0.1712
Test Date 1-29-81	2080.	0.1924	2180.	0.2163
Fatigue Life 2559.	2280.	0.2464	2380.	0.2874
Failure load: A)	2480.	0.3479	2559.	0.4704
B)				

Initiation Location(s)
FAYING SURFACE (NEAR CORNER)
Notes:

HA-.1264"(C), TA-.1203"(C), TB-.0542"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZHR4
Specimen no. 1 (319) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 1-15-81
Fatigue Life 3460.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2380.	0.1839	2480.	0.1868
2560.	0.1891	2660.	0.1938
2760.	0.1987	2860.	0.2043
2960.	0.2120	3060.	0.2208
3160.	0.2327	3260.	0.2532
3360.	0.2794	3460.	0.3624

Initiation Location(s)
MULTI : CORNER, FAYING SURFACE
Notes:
HA-.0654" (F.S.), TA-.0731" (C), TB-.0973" (B)
HOLES WERE DEBURRED

Data set ABZHR4
Specimen no. 2 (320) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (1/4)
Stress Level 38.0 Ksi
Test Date 1-15-81
Fatigue Life 2199.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0121	800.	0.0167
900.	0.0225	1000.	0.0278
1100.	0.0324	1200.	0.0391
1280.	0.0496	1380.	0.0605
1480.	0.0701	1580.	0.0792
1680.	0.0955	1780.	0.1126
1880.	0.1345	1980.	0.1620
2080.	0.1982	2180.	0.2660
2199.	0.3484		

Initiation Location(s)
CORNER
Notes:
HB-.2655" (C), TA-.1401" (C), TB-<.005"
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	300.	0.0090	400.	0.0158
Specimen no. 3 (321) HA	500.	0.0252	600.	0.0324
Material 7475-T7351	700.	0.0415	800.	0.0527
Spectrum B-1 Bomber	900.	0.0612	1000.	0.0793
Load Transfer 40%	1100.	0.1052	1200.	0.1394
Fast. type MS-90353 (1/4)	1280.	0.1951	1380.	0.2490
Stress Level 38.0 ksi	1429.	0.3636		
Test Date 1-15-81				
Fatigue Life 1429.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:
HA - .1875" (C.S-B), TA - <.005", TB - <.005"
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	200.	0.0037	300.	0.0095
Specimen no. 4 (322) HA	400.	0.0154	500.	0.0218
Material 7475-T7351	600.	0.0289	700.	0.0395
Spectrum B-1 Bomber	800.	0.0500	900.	0.0596
Load Transfer 40%	1000.	0.0695	1100.	0.0814
Fast. type MS-90353 (1/4)	1200.	0.1033	1280.	0.1409
Stress Level 38.0 ksi	1380.	0.2173	1469.	0.3851
Test Date 1-15-81				
Fatigue Life 1469.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HB - .0141"(CC), TA - <.005", TB - <.005"
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	700.	0.0158	800.	0.0232
Specimen no. 5 (323) HA	900.	0.0292	1000.	0.0373
Material 7475-T7351	1100.	0.0450	1200.	0.0546
Spectrum B-1 Bomber	1280.	0.0603	1380.	0.0692
Load Transfer 40%	1480.	0.0784	1580.	0.0882
Fast. type MS-90353 (1/4)	1680.	0.1035	1780.	0.1183
Stress Level 38.0 ksi	1880.	0.1393	1980.	0.1668
Test Date 1-26-81	2080.	0.2129	2180.	0.3164
Fatigue Life 2180.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:
HB-.0806"(C), TA-<.005", TB-<.005"
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	1560.	0.0068	1680.	0.0092
Specimen no. 6 (324) TA	1780.	0.0118	1880.	0.0156
Material 7475-T7351	1980.	0.0211	2080.	0.0253
Spectrum B-1 Bomber	2180.	0.0317	2280.	0.0371
Load Transfer 40%	2380.	0.0420	2480.	0.0483
Fast. type MS-90353 (1/4)	2560.	0.0551	2660.	0.0632
Stress Level 38.0 ksi	2760.	0.0758	2860.	0.0926
Test Date 1-16-81	2960.	0.1105	3060.	0.1590
Fatigue Life 3460.	3160.	0.1923	3260.	0.2375
Failure load: A)	3360.	0.3035	3460.	0.4631
B)				

Initiation Location(s)
CORNER
Notes:
HB-.0908"(F.S), TA-.0873"(C), TB-.1326"(F.S.)
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	1000.	0.0335	1100.	0.0373
Specimen no. 7 (325) HA	1200.	0.0429	1280.	0.0478
Material 7475-T7351	1380.	0.0533	1480.	0.0620
Spectrum B-1 Bomber	1580.	0.0714	1680.	0.0807
Load Transfer 40%	1780.	0.0932	1880.	0.1072
Fast. type MS-90353 (1/4)	1980.	0.1292	2080.	0.1492
Stress Level 38.0 ksi	2180.	0.1876	2280.	0.2209
Test Date 1-16-81	2380.	0.2492	2449.	0.3645
Fatigue Life 2449.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI: FAYING SURFACE, BORE
Notes:
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	400.	0.0059	500.	0.0116
Specimen no. 8 (326) HA	600.	0.0189	700.	0.0252
Material 7475-T7351	800.	0.0342	900.	0.0411
Spectrum B-1 Bomber	1000.	0.0494	1100.	0.0567
Load Transfer 40%	1200.	0.0646	1280.	0.0778
Fast. type MS-90353 (1/4)	1380.	0.0890	1480.	0.1002
Stress Level 38.0 ksi	1580.	0.1134	1680.	0.1307
Test Date 1-16-81	1780.	0.1516	1880.	0.1801
Fatigue Life 2123.	1980.	0.2206	2080.	0.2939
Failure load: A)	2123.	0.4119		
B)				

Initiation Location(s)
BORE
Notes:
HB-.0253" (F.S.), TA-<.005", TB-.0572" (C)
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	500.	0.0160	600.	0.0229
Specimen no. 9 (327) HA	700.	0.0377	800.	0.0521
Material 7475-T7351	900.	0.0640	1000.	0.0749
Spectrum B-1 Bomber	1100.	0.1001	1200.	0.1328
Load Transfer 40%	1280.	0.1705	1380.	0.2306
Fast. type MS-90353 (1/4)	1469.	0.4689		
Stress Level 38.0 ksi				
Test Date 1-16-81				
Fatigue Life 1469.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI: CORNER, BORE
Notes:
HB - .007" (B), TA - .0399" (C), TB - .0083" (B)
HOLES WERE DEBURRED

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHR4	300.	0.0114	400.	0.0303
Specimen no. 10 (328) HB	500.	0.0579	600.	0.0857
Material 7475-T7351	700.	0.1405	800.	0.2730
Spectrum B-1 Bomber				
Load Transfer 40%				
Fast. type MS-90353 (1/4)				
Stress Level 38.0 ksi				
Test Date 1-16-81				
Fatigue Life 800.				
Failure load: A)				
B)				

Initiation Location(s)
MULTI: BORE, (C.S-B), COUNTERSINK AREA
Notes:
CRACKS AT 180° & SAME SIZE

HA - .0163" (C), TA - <.005", TB - .0219" (C)
HOLES WERE DEBURRED

*1280 flights = 13500 flight hours = 1 service life

Data set ABZHC4
Specimen no. 1 (349) #3
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-26-81
Fatigue Life 2899.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0498	1200.	0.0532
1280.	0.0572	1380.	0.0639
1480.	0.0683	1580.	0.0791
1680.	0.0835	1780.	0.0905
1880.	0.0998	1980.	0.1082
2080.	0.1176	2180.	0.1276
2280.	0.1395	2380.	0.1516
2480.	0.1853	2560.	0.2048
2660.	0.2308	2760.	0.2669
2860.	0.3284	2899.	0.4308

Initiation Location(s)
CORNER PLUS FAYING SURFACE
Notes:
HA - .0716" (F.S.), TA - .2303" (C), TB - .0937" (C)

Data set ABZHC4
Specimen no. 2 (350) #4
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-26-81
Fatigue Life 2480.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0153	800.	0.0230
900.	0.0295	1000.	0.0379
1100.	0.0441	1200.	0.0529
1280.	0.0595	1380.	0.0687
1480.	0.0807	1580.	0.0930
1680.	0.1057	1780.	0.1189
1880.	0.1405	1980.	0.1623
2080.	0.1862	2180.	0.2190
2280.	0.2599	2380.	0.3171
2480.	0.4578		

Initiation Location(s)
CORNER
Notes:
HB - .0233" (C), TA - < .005", TB - < .005"

*1280 flights = 13500 flight hours = 1 service life

Data set ABZHC4
Specimen no. 3 (351) HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date 1-26-81
Fatigue Life 1880.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
600.	0.0141	700.	0.0202
800.	0.0265	900.	0.0365
1000.	0.0462	1100.	0.0593
1200.	0.0726	1280.	0.0877
1380.	0.1032	1480.	0.1305
1580.	0.1583	1680.	0.1909
1780.	0.2402	1880.	0.3943

Initiation Location(s)
CORNER
Notes:
HB - .0747" (C), TA - .0136" (B), TB - .0529" (C)

Data set ABZHC4
Specimen no. 4 (352) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 Ksi
Test Date 1-26-81
Fatigue Life 1200.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0102	400.	0.0230
500.	0.0408	600.	0.0552
700.	0.0716	800.	0.0915
900.	0.1168	1000.	0.1530
1100.	0.2014	1200.	0.3166

Initiation Location(s)
(C.S-B)
Notes:
HA - .0142" (C), TA - < .005", TB - .0110" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHC4	1100.	0.0312	1200.	0.0406
Specimen no. 5 (353) HA	1280.	0.0515	1380.	0.0616
Material 7475-T7351	1480.	0.0747	1580.	0.0884
Spectrum B-1 Bomber	1680.	0.1070	1780.	0.1285
Load Transfer 40%	1880.	0.1532	1980.	0.1863
Fast. type NAS 1580 (1/4)	2080.	0.2396	2180.	0.4149
Stress Level 38.0 ksi				
Test Date 1-27-81				
Fatigue Life 2180.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S-B)
Notes:
HB-.0408"(C), TA-.0350"(C), TB-.1207"(C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set ABZHC4	300.	0.0047	400.	0.0119
Specimen no. 6 (354) HA	500.	0.0187	600.	0.0391
Material 7475-T7351	700.	0.0608	800.	0.0876
Spectrum B-1 Bomber	900.	0.1146	1000.	0.1453
Load Transfer 40%	1100.	0.1855	1200.	0.2484
Fast. type NAS 1580 (1/4)	1280.	0.3838	1289.	0.4632
Stress Level 38.0 ksi				
Test Date 1-27-81				
Fatigue Life 1289.				
Failure load: A)				
B)				

Initiation Location(s)
BORE
Notes:
HB-.0248"(C), TA-.0160"(C), TB-.0840"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZHC4
Specimen no. 7 (355)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-27-81
Fatigue Life 859.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0136	300.	0.0300
400.	0.0584	500.	0.0872
600.	0.1176	700.	0.1666
800.	0.2392	859.	0.4112

Initiation Location(s)
MULTI - CORNER, FAYING SURFACE, BORE
Notes:
HB-.0405"(C), TA-<.005", TB-.0285"(C)

Data set ABZHC4
Specimen no. 8 (356) TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-27-81
Fatigue Life 2379.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0099	600.	0.0131
700.	0.0155	800.	0.0182
900.	0.0225	1000.	0.0270
1100.	0.0325	1200.	0.0369
1280.	0.0415	1380.	0.0457
1480.	0.0505	1580.	0.0600
1680.	0.0691	1780.	0.0855
1880.	0.1048	1980.	0.1292
2080.	0.1572	2180.	0.2001
2280.	0.2602	2379.	0.4255

Initiation Location(s)
CORNER
Notes:
HA-.2381"(C), HB-.1788"(C), TA-.0899"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set ABZHC4
Specimen no. 9 (357) TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-27-81
Fatigue Life 3059.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0099	1200.	0.0147
1280.	0.0188	1380.	0.0239
1480.	0.0292	1580.	0.0340
1680.	0.0381	1780.	0.0443
1880.	0.0554	1980.	0.0610
2080.	0.0683	2180.	0.0769
2280.	0.0870	2380.	0.0981
2480.	0.1116	2560.	0.1380
2660.	0.1556	2760.	0.1848
2860.	0.2210	2960.	0.2671
3059.	0.3655		

Initiation Location(s)
CORNER
Notes:
HA-.0960"(C), HB-.1903"(C), TB-.0214"(B)

Data set ABZHC4
Specimen no. 10 (358) HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type NAS 1580 (1/4)
Stress Level 38.0 ksi
Test Date 1-28-81
Fatigue Life 1349.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
400.	0.0185	500.	0.0327
600.	0.0532	700.	0.0755
800.	0.0963	900.	0.1215
1000.	0.1522	1100.	0.1893
1200.	0.2342	1280.	0.3060
1349.	0.4352		

Initiation Location(s)
BORE (BROAD ORIGIN)
Notes:
HA-.1891"(C.S-B), TA-.1123"(C), +B-.0061"(C)

*1280 flights = 13500 flight hours = 1 service life

Data set TBLC4
Specimen no. 1 (507) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-5-81
Fatigue Life 2659.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B - .1452" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1680.	0.0150	1780.	0.0170
1880.	0.0288	1980.	0.0422
2080.	0.0535	2180.	0.0683
2280.	0.0912	2380.	0.1148
2480.	0.1592	2560.	0.2564
2659.	0.3878		

Data set TBLC4
Specimen no. 2 (508) B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-5-81
Fatigue Life 2279.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A - .1554" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0141	1280.	0.0212
1380.	0.0281	1480.	0.0351
1580.	0.0464	1680.	0.0595
1780.	0.0775	1880.	0.0970
1980.	0.1200	2080.	0.1517
2180.	0.1913	2279.	0.2707

*1280 flights = 13500 flight hours = 1 service life

Data set TBLC4
Specimen no. 3 (509) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-5-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - .0346" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2380.	0.0098	2480.	0.0134
2560.	0.0169	2660.	0.0230
2760.	0.0312	2860.	0.0420
2960.	0.0535	3060.	0.0662
3160.	0.0821	3260.	0.0985
3360.	0.1157	3460.	0.1367
3560.	0.1633	3660.	0.1914
3760.	0.2571	3840.	0.3447

Data set TBLC4
Specimen no. 4 (510)
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-6-81
Fatigue Life 2859.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:

B - .0812"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0121	1380.	0.0159
1480.	0.0218	1580.	0.0285
1680.	0.0345	1780.	0.0415
1880.	0.0509	1980.	0.0624
2080.	0.0747	2180.	0.0882
2280.	0.1021	2380.	0.1142
2480.	0.1288	2560.	0.1442
2660.	0.1663	2760.	0.2091
2859.	0.2871		

*1280 flights = 13500 flight hours = 1 service life

Data set TBLC4
Specimen no. 5 (511) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 Ksi
Test Date 5-6-81
Fatigue Life 3459.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B-.2244"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1880.	0.0112	1980.	0.0147
2080.	0.0180	2180.	0.0249
2280.	0.0327	2380.	0.0435
2480.	0.0556	2560.	0.0641
2660.	0.0778	2760.	0.0935
2860.	0.1085	2960.	0.1243
3060.	0.1461	3160.	0.1699
3260.	0.1953	3360.	0.2409
3459.	0.3189		

Data set TBLC4
Specimen no. 6 (512) B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 Ksi
Test Date 5-6-81
Fatigue Life 3359.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A-.0532"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1580.	0.0114	1680.	0.0162
1780.	0.0200	1880.	0.0243
1980.	0.0300	2080.	0.0378
2180.	0.0481	2280.	0.0602
2380.	0.0726	2480.	0.0836
2560.	0.1025	2660.	0.1199
2760.	0.1410	2860.	0.1610
2960.	0.1820	3060.	0.2087
3160.	0.2393	3260.	0.2818
3359.	0.3631		

*1280 flights = 13500 flight hours = 1 service life

Data set TBLC4
Specimen no. 7 (513) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-6-81
Fatigue Life 3359.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1580.	0.0079	1680.	0.0103
1780.	0.0144	1880.	0.0185
1980.	0.0228	2080.	0.0296
2180.	0.0378	2280.	0.0472
2380.	0.0607	2480.	0.0727
2560.	0.0840	2660.	0.1020
2760.	0.1202	2860.	0.1440
2960.	0.1690	3060.	0.1991
3160.	0.2374	3260.	0.2989
3359.	0.4017		

Initiation Location(s)
BORE
Notes:

B-.0747"(B)

Data set TBLC4
Specimen no. 8 (514A)
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-6-81
Fatigue Life 3759.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1780.	0.0095	1880.	0.0140
1580.	0.0107	2080.	0.0201
2180.	0.0244	2280.	0.0331
2380.	0.0411	2480.	0.0508
2560.	0.0580	2660.	0.0679
2760.	0.0821	2860.	0.0951
2960.	0.1103	3060.	0.1260
3160.	0.1420	3260.	0.1621
3360.	0.1864	3460.	0.2081
3560.	0.2412	3660.	0.2814
3759.	0.3653		

Initiation Location(s)
BORE
Notes:

B-.1797"(B)

*1280 flights = 13500 flight hours = 1 service life

Data set TBLC4
Specimen no. 9 (515)A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-6-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - .0228" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2560.	0.0126	2660.	0.0165
2760.	0.0201	2860.	0.0239
2960.	0.0267	3060.	0.0313
3160.	0.0358	3260.	0.0410
3360.	0.0463	3460.	0.0518
3560.	0.0598	3660.	0.0697
3760.	0.0770	3840.	0.0880

Data set TBLC4
Specimen no. 10 (516A)
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 31.0 ksi
Test Date 5-6-81
Fatigue Life 3840.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2660.	0.0219	2760.	0.0253
2860.	0.0333	2960.	0.0442
3060.	0.0541	3160.	0.0662
3260.	0.0779	3360.	0.0909
3460.	0.1075	3560.	0.1256
3660.	0.1519	3760.	0.1781
3840.	0.2063		

*1280 flights = 13500 flight hours = 1 service life

Data set TBMC4
Specimen no. 1 (497) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 3055.
Failure load: A)
B)

Initiation Location(s)
MULTI: BORE
Notes.
B - .155"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1680.	0.0139	1980.	0.0201
2080.	0.0286	2160.	0.0386
2280.	0.0493	2380.	0.0610
2480.	0.0739	2580.	0.0837
2660.	0.1029	2760.	0.1240
2860.	0.1491	2960.	0.1794
3055.	0.2622		

Data Set TBMC4
Specimen no. 2 (498) B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 2309.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

A - .1256" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0166	1200.	0.0233
1260.	0.0305	1360.	0.0366
1480.	0.0479	1580.	0.0621
1680.	0.0788	1780.	0.1014
1880.	0.1234	1980.	0.1458
2080.	0.1713	2180.	0.2064
2260.	0.2475	2309.	0.3654

*1280 flights = 13500 flight hours = 1 service life

Data set TBMC4
Specimen no. 3 (499) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 5-4-81
Fatigue Life 2479.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - .0444" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0154	1380.	0.0222
1480.	0.0306	1580.	0.0374
1680.	0.0483	1780.	0.0614
1880.	0.0770	1980.	0.0953
2080.	0.1155	2180.	0.1328
2280.	0.1609	2380.	0.1960
2479.	0.2649		

Data set TBMC4
Specimen no. 4 (500) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 5-4-81
Fatigue Life 1979.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - .1395" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0371	1380.	0.0472
1480.	0.0595	1580.	0.0784
1680.	0.0985	1780.	0.1268
1880.	0.1559	1979.	0.2345

*1280 flights = 13500 flight hours = 1 service life

Data set TBMC4
Specimen no. 5 (501) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 2739.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
B-.1634" (B

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1280.	0.0091	1380.	0.0127
1480.	0.0165	1580.	0.0202
1680.	0.0258	1780.	0.0324
1880.	0.0398	1980.	0.0507
2080.	0.0674	2180.	0.0856
2280.	0.1095	2380.	0.1369
2480.	0.1641	2560.	0.1908
2660.	0.2473	2739.	0.3886

Data Set TBMC4
Specimen no. 6 (502) A
Material 2024-T851
Spectrum B-1 Bomber
Load ransfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 1679.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B - 7.2" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
500.	0.0083	600.	0.0118
700.	0.0159	800.	0.0223
900.	0.0333	1000.	0.0475
1100.	0.0658	1200.	0.0837
1280.	0.1049	1380.	0.1269
1480.	0.1511	1580.	0.1908
1679.	0.3292		

*1280 flights = 13500 flight hours = 1 service life

Data set TBMC4
Specimen no. 7 (503)A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 2379.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

B-.0439" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0025	1480.	0.0287
1580.	0.0355	1680.	0.0455
1780.	0.0573	1880.	0.0703
1980.	0.0893	2080.	0.1147
2180.	0.1484	2280.	0.1848
2379.	0.2442		

Data set TBMC4
Specimen no. 8 (504)B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date 5-4-81
Fatigue Life 2379.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

A-.1324"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1100.	0.0128	1200.	0.0169
1280.	0.0232	1380.	0.0301
1480.	0.0388	1580.	0.0497
1680.	0.0629	1780.	0.0756
1880.	0.0913	1980.	0.1096
2080.	0.1341	2180.	0.1629
2280.	0.1980	2379.	0.2548

*1280 flights = 13500 flight hours = 1 service life

Data set TBMC4
Specimen no. 9 (505) B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date 5-4-81
Fatigue Life 3003.
Failure loac: A)
B)

Initiation Location(s)
BORE
Notes:
A-.0213"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0059	1580.	0.0090
1680.	0.0122	1780.	0.0159
1880.	0.0206	1980.	0.0260
2080.	0.0321	2180.	0.0407
2280.	0.0521	2380.	0.0666
2480.	0.0837	2560.	0.1013
2660.	0.1255	2760.	0.1528
2860.	0.1828	2960.	0.2204
3003.	0.3443		

Data Set TBMC4
Specimen no. 10 (506) A
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer None
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test late 5-4-81
Fatigue Life 1879.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
B-,1408"(B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0204	1000.	0.0305
1100.	0.0421	1200.	0.0557
1280.	0.0675	1380.	0.0823
1480.	0.1107	1580.	0.1416
1680.	0.1713	1780.	0.2142
1879.	0.3098		

*1280 flights = 13500 flight hours = 1 service life

Data set TBXMC4
Specimen no. 1 (547) TB
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 2998.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
2080.	0.0107	2180.	0.0188
2280.	0.0324	2380.	0.0488
2480.	0.0681	2580.	0.0878
2680.	0.1131	2780.	0.1463
2880.	0.1915	2980.	0.2650
2998.	0.4120		

Data set TBXMC4
Specimen no. 2 (548) #B
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 2989.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1680.	0.0170	1780.	0.0219
1880.	0.0277	1980.	0.0337
2080.	0.0421	2180.	0.0498
2280.	0.0597	2380.	0.0721
2480.	0.0870	2580.	0.1013
2680.	0.1231	2780.	0.1520
2880.	0.1901	2980.	0.2558
2989.	0.3227		

*1280 flights = 13500 flight hours = 1 service life

Data set TBXMC4
Specimen no. 3 (549) HB
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 3099.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1580.	0.0052	1680.	0.0074
1780.	0.0098	1880.	0.0149
1980.	0.0189	2080.	0.0244
2180.	0.0319	2280.	0.0410
2380.	0.0524	2480.	0.0677
2560.	0.0810	2660.	0.1010
2760.	0.1276	2860.	0.1588
2960.	0.1933	3060.	0.2541
3099.	0.3660		

Data set TBXMC4
Specimen no. 4 (550) TA
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 2394.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1480.	0.0177	1580.	0.0268
1680.	0.0424	1780.	0.0579
1880.	0.0743	1980.	0.0934
2080.	0.1163	2180.	0.1555
2280.	0.1979	2380.	0.3310
2394.	0.4220		

*1280 flights = 13500 flight hours = 1 service life

Data set TBXMC4
Specimen no. 5 (551) HB
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 1775.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0176	1000.	0.0269
1100.	0.0391	1200.	0.0511
1280.	0.0638	1360.	0.0845
1480.	0.1102	1580.	0.1553
1680.	0.2074	1779.	0.3362

Data set TBXMC4
Specimen no. 6 (552) HA
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 Ksi
Test Date
Fatigue Life 2560.
Failure load: A)
B)

Initiation Location(s)
BORE (NEAR CORNER)
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1380.	0.0124	1480.	0.0180
1580.	0.0235	1680.	0.0309
1760.	0.0402	1880.	0.0555
1980.	0.0755	2080.	0.0972
2180.	0.1224	2280.	0.1546
2380.	0.1965	2480.	0.2684
2560.	0.3952		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXMC4	1480.	0.0129	1580.	0.0161
Specimen no. 7 (553) HA	1680.	0.0196	1780.	0.0244
Material 2024-T851	1880.	0.0294	1980.	0.0349
Spectrum B-1 Bomber	2080.	0.0420	2180.	0.0499
Load Transfer 15%	2280.	0.0563	2380.	0.0670
Fast. type NAS 1580 (1/4)	2480.	0.0801	2560.	0.0895
Stress Level 34.0 ksi	2660.	0.1062	2760.	0.1257
Test Date	2860.	0.1464	2960.	0.1667
Fatigue Life 3399.	3060.	0.1915	3160.	0.2232
Failure load: A)	3260.	0.2644	3360.	0.3305
B)	3399.	0.4210		

Initiation Location(s)
CORNER
Notes:

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXMC4	1280.	0.0068	1380.	0.0084
Specimen no. B (554) TB	1480.	0.0107	1580.	0.0133
Material 2024-T851	1680.	0.0163	1780.	0.0201
Spectrum B-1 Bomber	1880.	0.0242	1980.	0.0305
Load Transfer 15%	2080.	0.0407	2180.	0.0558
Fast. type NAS 1580 (1/4)	2280.	0.0729	2380.	0.0924
Stress Level 34.0 ksi	2480.	0.1135	2560.	0.1340
Test Date	2660.	0.1581	2760.	0.1898
Fatigue Life 3109.	2860.	0.2243	2960.	0.2691
Failure load: A)	3060.	0.3270	3109.	0.4227
B)				

Initiation Location(s)
BORE (NEAR CORNER)
Notes:

*1280 flights = 13500 flight hours = 1 service life

Data set TBXMC4
Specimen no. 9 (555) HB
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 2759.
Failure load: A)
B)

Initiation Location(s)
CORNER
Notes:

No. of Flights*	Crack Size	No. of Flights*	Crack Size
1200.	0.0118	1380.	0.0185
1480.	0.0238	1580.	0.0298
1680.	0.0360	1780.	0.0439
1880.	0.0507	1980.	0.0600
2080.	0.0711	2180.	0.0905
2280.	0.1080	2380.	0.1333
2480.	0.1632	2560.	0.1895
2660.	0.2371	2759.	0.3852

Data set TBXMC4
Specimen no. 10 (556) TA
Material 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 34.0 ksi
Test Date
Fatigue Life 2959.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

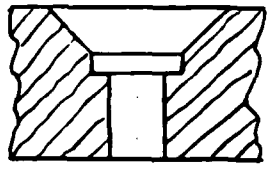
No. of Flights*	Crack Size	No. of Flights*	Crack Size
1880.	0.0176	1980.	0.0235
2080.	0.0320	2180.	0.0418
2280.	0.0558	2380.	0.0711
2480.	0.0930	2560.	0.1125
2660.	0.1389	2760.	0.1725
2860.	0.2188	2959.	0.2993

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	300.	0.0328	400.	0.0580
Specimen no. 1 (628) HB	500.	0.1252	600.	0.2322
Material 2024-T851	669.	0.2968		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 669.
Failure load: A)
B)

ALL HOLES IN THIS DATA SET HAD SEALANT GROOVES



Initiation Location(s)
(C.S.-B)
Notes:
HA -.0858"(B), TA - <.005", TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	500.	0.0164	600.	0.0358
Specimen no. 2 (629) HB	700.	0.0650	800.	0.1057
Material 2024-T851	900.	0.1877	939.	0.3005

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 939.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:
HA -.2795"(C.S.-B), TA -.0496"(C), TB -.0164"(B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	300.	0.0238	400.	0.0523
Specimen no. 3 (630) HB	500.	0.0902	600.	0.1652
Material 2024-T851	639.	0.2933		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 639.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:
HA - .0704" (C.S. - B), TA - .032" (B), TB - .0113" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	400.	0.0422	500.	0.0939
Specimen no. 4 (631) HB	600.	0.1668	700.	0.2405
Material 2024-T851	767.	0.3606		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 767.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:
HA - .1157" (B), TA - < .005", TB - .0238" (C)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	400.	0.0354	500.	0.0991
Specimen no. 5 (632) HA	598.	0.2386		

Material: 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 598.
Failure load: A)
B)

Initiation Location(s)
BORE, (C.S.-B)
Notes:

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	400.	0.0184	500.	0.0426
Specimen no. 6 (633) HA	600.	0.0728	700.	0.1370
	800.	0.2041	889.	0.3608

Material: 2024-T851
Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 889.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B)
Notes:

HB-.2151"(B), TA-.0217"(B), TB-.0290"(B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	400.	0.0222	500.	0.0395
Specimen no. 7 (634) HA	600.	0.0742	700.	0.1744
Material 2024-T851	739.	0.2522		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 739.
Failure loc: A)
B)

Initiation Location(s)
BORE, (C.S. -B)
Notes:
HB - .1805" (B), TA - .6672" (B), TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	400.	0.0097	500.	0.0329
Specimen no. 8 (635) HB	600.	0.0571	700.	0.0871
Material 2024-T851	800.	0.1206	900.	0.2341

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 900.
Failure loc: A)
B)

Initiation Location(s)
(C.S. -B)
Notes:
HA - .0818" (C.S. -B), TA - .0149" (B), TB - .0542" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	200.	0.0069	300.	0.0281
Specimen no. 9 (636) HB	400.	0.0580	500.	0.1138
Material 2024-T851	579.	0.2293		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 579.
Failure load: A)
B)

Initiation Location(s)
BORE, C, C.S. -B)
Notes:
HA - .1252" (MULTI), TA - <.005", TB - <.005"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set TBXHC4	300.	0.0179	400.	0.0414
Specimen no. 10 (637) HA	500.	0.0690	600.	0.1255
Material 2024-T851	700.	0.2800		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. type NAS 1580 (1/4)
Stress Level 40.8 ksi
Test Date
Fatigue Life 700.
Failure load: A)
B)

Initiation Location(s)
C.C.S. -B)
Notes:
HB - .1071" (C.S. -B), TA - .0152" (C), TB - .0153" (B)

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	3060.	0.0130	3160.	0.0146
Specimen no. 2 (726(D3)	3260.	0.0159	3360.	0.0176
Material 7475-T7351	3460.	0.0193	3560.	0.0212
Spectrum B-1 Bomber	3660.	0.0232	3760.	0.0256
Load Transfer None	3840.	0.0276		
Fast. type MS-90353 (3/16)				
Stress Level 22.0 ksi				
Test Date				
Fatigue Life 3840.				
Failure load: A)				
B)				

NOTE DIFFERENT STRESS LEVEL

Initiation Location(s)

Notes:
THIS WAS THE ONLY COMPLEX SPLICE SPECIMEN TO SURVIVE 3 LIFETIMES

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	400.	0.0330	500.	0.0418
Specimen no. 1 (725(D2)	600.	0.0494	700.	0.0549
Material 7475-T7351	800.	0.0611	900.	0.0684
Spectrum B-1 Bomber	1000.	0.0745	1100.	0.0815
Load Transfer None	1200.	0.0887	1280.	0.0946
Fast. type MS-90353 (3/16)	1380.	0.1046	1480.	0.1138
Stress Level 25.0 ksi	1580.	0.1260	1680.	0.1426
Test Date	1780.	0.1572	1880.	0.1751
Fatigue Life 2273.	1980.	0.1989	2080.	0.3307
Failure load: A)	2180.	0.2698	2273.	0.4142
B)				

Initiation Location(s)
(C.S. - B) INTERSECTION
Notes:
D3 - <.050", D4 - <.050", D1 - 2306"
A2 - .1595", A4 - .3531", A1 - .1099", A3 - .1265"

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	400.	0.0336	500.	0.0440
Specimen no. 3 (727(D2)	600.	0.0535	700.	0.0622
Material 7475-T7351	800.	0.0711	900.	0.0848
Spectrum B-1 Bomber	1000.	0.1014	1100.	0.1208
Load Transfer None	1200.	0.1524	1280.	0.1962
Fast. type MS-90353 (3/16)	1319.	0.2711		
Stress Level 25.0 ksi				
Test Date				
Fatigue Life, 1319.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S-B) INTERSECTION
Notes:
CRACKS AT 180° = SAME SIZE

D3-.2540"(C.S.-B), D5-.0673", D4-.0797", D1-.2
A1-.0497", A2-<.050", A3-.0429",

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	400.	0.0109	500.	0.0189
Specimen no. 4 (728A2)	600.	0.0252	700.	0.0313
Material 7475-T7351	800.	0.0376	900.	0.0446
Spectrum B-1 Bomber	1000.	0.0528	1100.	0.0596
Load Transfer None	1200.	0.0728	1280.	0.0803
Fast. type MS-90353 (3/16)	1380.	0.1007	1480.	0.1216
Stress Level 25.0 ksi	1580.	0.1456	1680.	0.1794
Test Date	1769.	0.2875		
Fatigue Life 1769.				
Failure load: A)				
B)				

Initiation Location(s)
COUNTERSINK AREA
Notes:
A1-.1920", A4-.2279°, A5-.1125"

*1280 flights = 13500 flight hours = 1 service life

Data set CBSL
Specimen no. 10 (729A2)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 25.0 ksi
Test Date
Fatigue Life 1979.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
800.	0.0301	900.	0.0381
1000.	0.0444	1100.	0.0531
1200.	0.0604	1280.	0.0695
1380.	0.0843	1480.	0.1031
1580.	0.1254	1680.	0.1532
1780.	0.1773	1880.	0.2163
1979.	0.3087		

Initiation Location(s)
CORNER
Notes:
A = .1934" (C.S. -B)

Data set CBSL
Specimen no. 5 (730D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 25.0 ksi
Test Date
Fatigue Life 2079.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0127	400.	0.0168
500.	0.0223	600.	0.0289
700.	0.0378	800.	0.0447
900.	0.0485	1000.	0.0524
1100.	0.0571	1200.	0.0622
1280.	0.0666	1380.	0.0740
1480.	0.0830	1580.	0.0943
1680.	0.1074	1780.	0.1222
1880.	0.1455	1980.	0.1756
2079.	0.2698		

Initiation Location(s)
BORE
Notes:

A = .1871" (F.S.)

*1280 flights = 13500 flight hours = 1 service life

Data set CBSL
Specimen no. 6 (731D3)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 25.0 ksi
Test Date
Fatigue Life 2304.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
900.	0.0477	1000.	0.0541
1100.	0.0612	1200.	0.0670
1280.	0.0717	1380.	0.0773
1480.	0.0851	1580.	0.0913
1680.	0.0984	1780.	0.1057
1880.	0.1139	1980.	0.1237
2080.	0.1334	2180.	0.1472
2280.	0.1628	2304.	0.1690

Initiation Location(s)
BORE
Notes:
r = .1521" (C.S. - B)

Data set CBSL
Specimen no. 11 (732D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer None
Fast. type MS-90353 (3/16)
Stress Level 25.0 ksi
Test Date
Fatigue Life 2159.
Failure load: A)
B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
700.	0.0101	800.	0.0217
900.	0.0335	1000.	0.0441
1100.	0.0547	1200.	0.0669
1280.	0.0785	1380.	0.0946
1480.	0.1069	1580.	0.1210
1680.	0.1377	1780.	0.1532
1880.	0.1750	1980.	0.1970
2080.	0.2393	2159.	0.3434

Initiation Location(s)
BORE
Notes:
r = .2802"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	800.	0.0324	900.	0.0407
Specimen no. 7 (733A4)	1000.	0.0476	1100.	0.0559
Material 7475-T7351	1200.	0.0600	1280.	0.0680
Spectrum B-1 Bomber	1380.	0.0743	1480.	0.0820
Load Transfer None	1580.	0.0922	1680.	0.1046
Fast. type MS-90353 (3/16)	1780.	0.1208	1880.	0.1562
Stress Level 25.0 ksi	1954.	0.3600		
Test Date				
Fatigue Life 1954.				
Failure load: A)				
B)				

Initiation Location(s)

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Notes:

A3 - .3198" (MULTIPLE SITES)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSL	600.	0.0302	700.	0.0397
Specimen no. 8 (734D4)	800.	0.0492	900.	0.0562
Material 7475-T7351	1000.	0.0615	1100.	0.0673
Spectrum B-1 Bomber	1200.	0.0727	1280.	0.0807
Load Transfer None	1380.	0.0915	1480.	0.1018
Fast. type MS-90353 (3/16)	1580.	0.1088	1680.	0.1172
Stress Level 25.0 ksi	1780.	0.1268	1880.	0.1363
Test Date	1980.	0.1452	2080.	0.1589
Fatigue Life 2589.	2180.	0.1761	2280.	0.1855
Failure load: A)	2380.	0.2210	2480.	0.2549
B)	2560.	0.2860	2589.	0.3253

Initiation Location(s)

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Notes:

D3 - .2255", D1 - .1119", D5 - .1228", D2 - .2565" (C)

[illegible] - .1309"

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set C8SL	400.	0.0243	500.	0.0364
Specimen no. 9 (735A4)	600.	0.0484	700.	0.0611
Material 7475-T7351	800.	0.0720	900.	0.0826
Spectrum B-1 Bomber	1000.	0.0973	1100.	0.1099
Load Transfer None	1200.	0.1311	1280.	0.1497
Fast. type MS-90353 (3/16)	1380.	0.1789	1480.	0.2293
Stress Level 25.0 ksi	1539.	0.3166		
Test Date				
Fatigue Life 1539.				
Failure load: A)				
B)				

Initiation Location(s)
CORNER
Notes:

A1 - .2639" (C)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set C8SL	600.	0.0313	700.	0.0378
Specimen no. 12 (736A4)	800.	0.0427	900.	0.0487
Material 7475-T7351	1000.	0.0556	1100.	0.0638
Spectrum B-1 Bomber	1200.	0.0723	1280.	0.0844
Load Transfer None	1380.	0.0947	1480.	0.1110
Fast. type MS-90353 (3/16)	1580.	0.1296	1680.	0.1542
Stress Level 25.0 ksi	1780.	0.1989	1839.	0.2919
Test Date				
Fatigue Life 1839.				
Failure load: A)				
B)				

Initiation Location(s)
(C.S. -B) INTERSECTION
Notes:
A3 - .2919" (C.S -B)

*1280 flights = 13500 flight hours = 1 service life

Data set CBSH
Specimen no. 1 (724(D3)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 1079.
Failure load: A)
B)

Initiation Location(s)
COUNTERSINK AREA
Notes:

CRACKS AT 180° & SAME SIZE
D4 - .2116"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0105	300.	0.0175
400.	0.0281	500.	0.0395
600.	0.0518	700.	0.0653
800.	0.0817	900.	0.1009
1000.	0.1340	1079.	0.2070

Data set CBSH
Specimen no. 37 (737A4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 759.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:

D - .2065" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0244	300.	0.0415
400.	0.0565	500.	0.0762
600.	0.1045	700.	0.1467
759.	0.2283		

*1280 flights = 13500 flight hours = 1 service life

Data set CBSH
Specimen no. 38 (738D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 769.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B) INTERSECTION
Notes:
D3 - .2425" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
100.	0.0221	200.	0.0414
300.	0.0596	400.	0.0792
500.	0.1008	600.	0.1269
700.	0.1718	769.	0.2849

Data set CBSH
Specimen no. 39 (739A3)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 899.
Failure load: A)
B)

Initiation Location(s)
MULTI! BORE
Notes:
A2 - .257" (C.S. - B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0184	400.	0.0364
500.	0.0536	600.	0.0692
700.	0.0906	800.	0.1264
899.	0.2572		

*1280 flights = 13500 flight hours = 1 service life

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSH	2480.	0.0481	2560.	0.0597
Specimen no. 40 (740D4)	2660.	0.0714	2760.	0.0879
Material 7475-T7351	2860.	0.1065	2960.	0.1347
Spectrum B-1 Bomber	3060.	0.1832	3162.	0.2955

Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 3162.
Failure load: A)
B)

Initiation Location(s)
NER
Notes:

D2 - .2504" (C.S - B)

	No. of Flights*	Crack Size	No. of Flights*	Crack Size
Data set CBSH	200.	0.0184	300.	0.0323
Specimen no. 41 (741D2)	400.	0.0480	500.	0.0635
Material 7475-T7351	600.	0.0787	700.	0.1189
Spectrum B-1 Bomber	800.	0.1962	827.	0.3010

Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 827.
Failure load: A)
B)

Initiation Location(s)
(C.S - B) INTERSECTION
Notes:
[illegible] - .2504" (B)

*1280 flights = 13500 flight hours = 1 service life

Data set CBSH
Specimen no. 42 (742D2)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 779.
Failure load: A)
B)

Initiation Location(s)
(C.S. - B)
Notes:
D1 - .2118"

No. of Flights*	Crack Size	No. of Flights*	Crack Size
100.	0.0029	200.	0.0275
300.	0.0492	400.	0.0739
500.	0.1004	600.	0.1337
700.	0.1832	779.	0.3183

Data set CBSH
Specimen no. 43 (743D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 1059.
Failure load: A)
B)

Initiation Location(s)
INDETERMINANT
Notes:
D2 - .3026" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0323	300.	0.0457
400.	0.0557	500.	0.0662
600.	0.0782	700.	0.0933
800.	0.1108	900.	0.1386
1000.	0.1877	1059.	0.3037

*1280 flights = 13500 flight hours = 1 service life

Data set C8SH
Specimen no. 44 (744D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 939.
Failure load: A)
B)

Initiation Location(s)
(C.S.-B) INTERSECTION
Notes:

D2 - .2381" (C,B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
100.	0.0055	200.	0.0243
300.	0.0449	400.	0.0613
500.	0.0814	600.	0.0990
700.	0.1234	800.	0.1510
900.	0.2025	939.	0.2613

Data set C8SH
Specimen no. 45 (745A4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 729.
Failure load: A)
B)

Initiation Location(s)
CORNER, (C.S.-B)
Notes:

2843" (C)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
300.	0.0594	400.	0.0816
500.	0.1020	600.	0.1311
700.	0.1993	729.	0.2854

*1280 flights = 13500 flight hours = 1 service life

Data set CBSH
Specimen no. 46 (746A2)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 769.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
A4 - .2157" (C, B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
200.	0.0082	300.	0.0296
400.	0.0505	500.	0.0720
600.	0.1022	700.	0.1515
769.	0.2724		

Data set CBSH
Specimen no. 47 (747D4)
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 40%
Fast. type MS-90353 (3/16)
Stress Level 30.0 ksi
Test Date
Fatigue Life 979.
Failure load: A)
B)

Initiation Location(s)
BORE
Notes:
D5 - .2096" (B)

No. of Flights*	Crack Size	No. of Flights*	Crack Size
100.	0.0169	200.	0.0325
300.	0.0471	400.	0.0619
500.	0.0747	600.	0.0899
700.	0.1049	800.	0.1289
900.	0.1676	979.	0.2570

*1280 flights = 13500 flight hours = 1 service life

A P P E N D I X C

FRACTOGRAPHY DATA

(B-1 BOMBER SPECTRUM)

Secondary Cracks

	Flights	Crack Size	Flights	Crack Size
Data set ABLR4	3940.	.0211	4040.	.0230
Specimen no. 192A1	4140.	.0252	4240.	.0276
Material 7475-T7351	4340.	.0299	4440.	.0326
Spectrum B-1 Bomber	4540.	.0363	4640.	.0401
Load Transfer 0%	4740.	.0454	4840.	.0520
Fast. Type MS-90353	4940.	.0593	5040.	.0702
Stress Level 34 ksi				
Test Date				
Fatigue Life 5039 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
BORE
Notes: Secondary Cracks

	Flights	Crack Size	Flights	Crack Size
Data set ABLR4	3560.	.0155	3660.	.0170
Specimen no. 192A1	3760.	.0182	3840.	.0195
Material 7475-T7351				
Spectrum B-1 Bomber				
Load Transfer 0%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date 9-18-80				
Fatigue Life 5039 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
BORE
Notes: Secondary Cracks

	Flights	Crack Size	Flights	Crack Size
Data set ABLR4	3940.	.0053	4040.	.0060
Specimen no. 193A1	4140.	.0066	4240.	.0072
Material 7475-T7351	4340.	.0079	4440.	.0086
Spectrum B-1 Bomber	4540.	.0092	4640.	.0101
Load Transfer 0%	4740.	.0109	4840.	.0119
Fast. Type MS-90353	4940.	.0133	5120.	.0156
Stress Level 34 ksi	5220.	.0170	5320.	.0182
Test Date	5420.	.0191		
Fatigue Life 5449 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
BORE
Notes: Secondary Cracks

	Flights	Crack Size	Flights	Crack Size
Data set ABLR4	3560.	.0042	3660.	.0044
Specimen no. 193A1	3840.	.0050		
Material 7475-T7351				
Spectrum B-1 Bomber				
Load Transfer 0%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date 9-18-80				
Fatigue Life 5449 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
BORE
Notes: Secondary Cracks

Data set AB1R4
Specimen no. 194A2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 6829 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
4540.	.0051	4640.	.0054
4740.	.0057	4840.	.0060
4940.	.0063	5120.	.0073
5220.	.0078	5320.	.0083
5420.	.0088	5520.	.0096
5620.	.0100	5720.	.0104
5820.	.0112	5920.	.0119
6020.	.0127	6120.	.0134
6220.	.0142	6400.	.0160
6500.	.0172	6600.	.0185
6700.	.0200	6800.	.0217

Initiation Location(s)
B
Notes: Secondary Cracks

Data set ABLR4(A)
Specimen no. 218B
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 36.0
Test Date
Fatigue Life 3189 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1780	.0120"	1880	.0140"
1980	.0160"	2080	.0189"
2180	.0214"	2280	.0260"
2380	.0315"	2480	.0381"
2560	.0482"	2660	.0573"
2760	.0735"	2860	.0930"
2960	.1153	3060	.1415"
3160	.1766"	3189	.1909"

Initiation Location(s)
B
Notes:

Data set ABLR4(A)
Specimen no. 219B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 36.0
Test Date
Fatigue Life 3249 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1680	.0025"	1780	.0028"
1880	.0032"	1980	,0035"
2080	.0037"	2180	.0041"
2280	.0047"	2380	.0051"
2480	.0056"	2660	.0066"
2760	.0079"	2860	.0091"
2960	.0100"	3060	.0110"
3160	.0121"	3249	.0123"

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABLR4(A)	2660	.0027"	2760	.0031"
Specimen no. 220A1	2860	.0036"	2960	.0040"
Material 7475-T7351	3060	.0043"	3160	.0049"
Spectrum B-1 Bomber	3260	.0056"	3360	.0063"
Load Transfer 0%	3460	.0070"	3560	.0079"
Fast. Type MS-90353	3660	.0087"	3760	.0095"
Stress Level 36.0	3840	.0100"		
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B

Notes: origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1580.	.0130"	1680.	.0143"
Specimen no. 208B	1780.	.0157"	1880.	.0181"
Material 7475-T7351	1980.	.0216"	2080.	.0258"
Spectrum B-1 Bomber	2180.	.0306"	2280.	.0349"
Load Transfer 0%	2380.	.0398"	2480.	.0470"
Fast. Type MS-90353	2560.	.0542"	2660.	.0637"
Stress Level 38.0 ksi	2760.	.0744"	2860.	.0942"
Test Date	2960.	.1174"	3019.	.1342"

Fatigue Life 3019 FLTS.
Failure Load: A)
B)

Initiation Location(s)

Notes: Failed at 3019 flight hours

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1780.	.0031"	1880.	.0038"
Specimen no. 209A1	1980.	.0048"	2080.	.0062"
Material 7475-T7351	2180.	.0078"	2280.	.0096
Spectrum B-1 Bomber	2380.	.0119"	2480.	.0139"
Load Transfer 0%	2660.	.0192"	2760.	.0227"
Fast. Type MS-90353	2860.	.0268"	2960.	.0312"
Stress Level 38.0 ksi	3060.	.0373"	3129.	.0406"
Test Date				

Fatigue Life 3129 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	2380·	·0105"	2480·	·0118"
Specimen no. 210A1	2660·	·0155"	2760·	·0195"
Material 7475-T7351	2860·	·0222"	2960·	·0263"
Spectrum B-1 Bomber	3060·	·0306"	3099·	·0331"

Load Transfer 0%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 3099 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	2180.	.0137"	2280·	·0170"
Specimen no. 211A	2380.	.0218"	2480·	·0283"
Material 7475-T7351	2560.	.0338"	2660·	·0395"
Spectrum B-1 Bomber	2729.	.0459"		

Load Transfer 0%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 2729 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes: 38 ksi =

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	2080.	.0141"	2180.	.0173"
Specimen no. 212B1	2280.	.0202"	2380.	.0236"
Material 7475-T7351	2480.	.0274"	2660.	.0351"
Spectrum B-1 Bomber	2760.	.0417"	2860.	.0491"
Load Transfer 0%	2960.	.0572"	3060.	.0687"
Fast. Type MS-90353	3160.	.0821"	3260.	.0993"
Stress Level 38.0 ksi	3360.	.1211"	3460.	.1458"
Test Date	3529.	.1637"		
Fatigue Life 3529 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes: Origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1100.	.0108"	1200.	.0128"
Specimen no. 213B1	1380.	.0168"	1480.	.0196"
Material 7475-T7351	1580.	.0236"	1680.	.0278"
Spectrum B-1 Bomber	1780.	.0332"	1880.	.0397"
Load Transfer 0%	1980.	.0489"	2080.	.0627"
Fast. Type MS-90353	2180.	.0825"	2280.	.1081"
Stress Level 38.0 ksi	2339.	.1265"		
Test Date				
Fatigue Life 2339 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1480.	.0131"	1580.	.0155"
Specimen no. 214B1	1680.	.0181"	1780.	.0209"
Material 7475-T7351	1880.	.0239"	1980.	.0271"
Spectrum B-1 Bomber	2080.	.0312"	2180.	.0362"
Load Transfer 0%	2280.	.0419"	2380.	.0490"
Fast. Type MS-90353	2480.	.0584"	2660.	.0847"
Stress Level 38.0 ksi	2760.	.1070"	2839.	.1335"
Test Date				
Fatigue Life 2839 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1480.	.0125"	1580.	.0160"
Specimen no. 215A1	1680.	.0198"	1780.	.0242"
Material 7475-T7351	1880.	.0290"	1980.	.0360"
Spectrum B-1 Bomber	2080.	.0443"	2180.	.0565"
Load Transfer 0%	2280.	.0754"	2380.	.1257"
Fast. Type MS-90353	2480.	.1621"	2529.	.1959"
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 2529 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1880.	.00089"	1980.	.0102"
Specimen no. 216B	2080.	.0125"	2180.	.0148"
Material 7475-T7351	2280.	.0172"	2380.	.0200"
Spectrum B-1 Bomber	2480.	.0236"	2560.	.0273"
Load Transfer 0%	2660.	.0305"	2760.	.0358"
Fast. Type MS-90353	2860.	.0415"	2960.	.0507"
Stress Level 38.0 ksi	3060.	.0623"	3119.	.0709"
Test Date				
Fatigue Life 3119 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABMR4(A)	1680.	.0087"	1780.	.0103"
Specimen no. 217B	1880.	.0118"	1980.	.0136"
Material 7475-T7351	2080.	.0154"	2180.	.0167"
Spectrum B-1 Bomber	2280.	.0194"	2380.	.0220"
Load Transfer 0%	2480.	.0263"	2560.	.0309"
Fast. Type MS-90353	2660.	.0348"	2760.	.0421"
Stress Level 38.0 ksi	2860.	.0524"	2960.	.0663"
Test Date	3060.	.0832"	3160.	.1039"
Fatigue Life 3395 FLTS.	3260.	.1288"	3360.	.1590"
Failure Load: A)	3395.	.1749"		
B)				

Initiation Location(s)
B

Notes:

Flights	Crack Size	Flights	Crack Size
800.	.0090"	900.	.0113"
1000.	.0141"	1100.	.0170"
1200.	.0211"	1280.	.0247"
1380.	.0290"	1480.	.0354"
1580.	.0437"	1680.	.0534"
1780.	.0677"	1880.	.0858"
1980.	.1086"	2080.	.1382"
2180.	.1781"	2280.	.2487"

Data set ABHR4(A)
Specimen no. 197A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2279 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flights	Crack Size	Flights	Crack Size
1000.	.0069"	1100.	.0093"
1200.	.0125"	1280.	.0164"
1380.	.0204"	1480.	.0256"
1580.	.0315"	1680.	.0378"
1780.	.0450"	1880.	.0549"
1919.	.0588"		

Data set ABHR4(A)
Specimen no. 198A1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 1919 FLTS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABHR4(A)	900.	.0107"	1000.	.0128"
Specimen no. 199A1	1100.	.0147"	1200.	.0183"
Material 7475-T7351	1380.	.0266"	1480.	.0308"
Spectrum B-1 Bomber	1580.	.0380"	1680.	.0450"
Load Transfer 0%	1780.	.0556"	1880.	.0697"
Fast. Type MS-90353	1980.	.0901"	2080.	.1182"
Stress Level 40.8 ksi	2180.	.1559"	2279.	.2130"
Test Date				
Fatigue Life 2279 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABHR4(A)	1200.	.0053"	1380.	.0083"
Specimen no. 200A	1480.	.0105"	1580.	.0128"
Material 7475-T7351	1680.	.0168"	1780.	.0216"
Spectrum B-1 Bomber	1880.	.0254"	1980.	.0304"
Load Transfer 0%	2080.	.0361"	2180.	.0443"
Fast. Type MS-90353	2280.	.0533"	2380.	.0656"
Stress Level 40.8 ksi	2480.	.0826"	2560.	.1053"
Test Date	2660.	.1315"	2699.	.1505"
Fatigue Life 2699 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABHR4(A)	1380.	.0120	1480.	.0165
Specimen no. 201A2	1580.	.0227	1680.	.0309
Material 7475-T7351	1780.	.0407	1859.	.0503
Spectrum B-1 Bomber				
Load Transfer 0%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1859 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

Origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABHR4(A)	500.	.0024"	600.	.0039"
Specimen no. 202B2	700.	.0056"	800.	.0077"
Material 7475-T7351	900.	.0101"	1000.	.0127"
Spectrum B-1 Bomber	1100.	.0163"	1200.	.0207"
Load Transfer 0%	1280.	.0250"	1380.	.0303"
Fast. Type MS-90353	1480.	.0391"	1580.	.0496"
Stress Level 40.8 ksi	1680.	.0668"	1719.	.0758"
Test Date				
Fatigue Life 1719 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

Flights	Crack Size	Flights	Crack Size
1100.	.0045"	1200.	.0059"
1380.	.0097"	1480.	.0119"
1580.	.0142"	1680.	.0167"
1780.	.0197"	1880.	.0232"
1980.	.0264"	2080.	.0301"
2180.	.0341"	2279.	.0383"

Data set ABHR4(A)
Specimen no. 203B1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8
Test Date
Fatigue Life 2279 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

Flights	Crack Size	Flights	Crack Size
1780.	.0060"	1880.	.0083"
1980.	.0103"	2080.	.0129"
2180.	.0169"	2280.	.0188"
2380.	.0236"	2480.	.0286"
2660.	.0377"	2739.	.0450"

Data set ABHR4(A)
Specimen no. 204B2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2759 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes: Origin is in the bore of the hole

Data set ABHR4(A)
Specimen no. 205B2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2279 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1480	. 0197"	1580	. 0233"
1680	. 0278"	1780	. 0339"
1880	. 0410"	1980	. 0505"
2080	. 0620"	2180	. 0760"
2279	. 0957"		

Initiation Location(s)
B
Notes:

Data set ABHR4(A)
Specimen no. 206A2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 0%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2049 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1100	.0107"	1200	.0136"
1280	.0174"	1380	.0215"
1480	.0277"	1580	.0326"
1680	.0394"	1780	.0490"
1880	.0616"	1980	.0803"
2049	.1012"		

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1480	.0093"	1580	.0128"
Specimen no. 241HB	1680	.0180"	1780	.0237"
Material 7475-T7351	1880	.0272"	1980	.0309"
Spectrum B-1 Bomber	2080	.0365"	2180	.0417"
Load Transfer 15%	2280	.0478"	2380	.0545"
Fast. Type MS-90353	2480	.0614"	2560	(.0695)
Stress Level 36.0 ksi	2660	.0766"	2760	.0856
Test Date				
Fatigue Life 2760 FLTS,				
Failure Load: A)				
B)				

Initiation Location(s)
NEAR CORNER IN BORE
Notes: a = .0779"

origin near corner in bore of hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1380	.0065"	1480	.0094"
Specimen no. 241TA	1580	.0118"	1680	.0162"
Material 7475-T7351	1780	.0212"	1880	.0285"
Spectrum B-1 Bomber	1980	.0349"	2080	.0430"
Load Transfer 15%	2180	.0530"	2280	.0658"
Fast. Type MS-90353	2380	.0820"	2480	.1000"
Stress Level 36.0 ksi	2560	(.1161)	2660	.1367"
Test Date	2760	.1624		
Fatigue Life 2760 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes: a = .1476"

origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1200	.0122"	1380	.0187"
Specimen no. 241TB	1480	.0242"	1580	.0295"
Material 7475-T7351	1680	.0342"	1780	.0399"
Spectrum B-1 Bomber	1880	.0468"	1980	.0552"
Load Transfer 15%	2080	.0620"	2180	.0708"
Fast. Type MS-90353	2280	.0840"	2380	.0969"
Stress Level 36.0 ksi	2480	.1135"	2560	.1365"
Test Date	2660	.1617"	2760	.2100
Fatigue Life 2760 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .2082"

origin is at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1000	.0100"	1100	.0128"
Specimen no. 242HB	1200	.0159"	1380	.0194"
Material 7475-T7351	1480	.0232"	1580	.0270"
Spectrum B-1 Bomber	1680	.0312"	1780	.0364"
Load Transfer 15%	1880	.0406"	1980	.0453"
Fast. Type MS-90353	2080	.0499"	2180	.0548"
Stress Level 36.0 ksi	2280	.0608"	2380	.0667"
Test Date	2480	.0744"	2560	(.0797)
Fatigue Life 3675 FLTS.	2660	.0852"	2760	.0944"
Failure Load: A)	2860	.1034"	2960	.1135"
B)	3060	.1240"	3160	.1370"
	3260	.1519"	3360	.1703"
	3460	.1891"	3560	.2142"
	3660	.2523"	3675	.2733"

Initiation Location(s)
C
Notes: a = .2487"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2480	.0253"	2560	(.0319)
Specimen no. 242TA	2660	.0398"	2760	.0471"
Material 7475-T7351	2860	.0555"	2960	.0641"
Spectrum B-1 Bomber	3060	.0742"	3160	.0873"
Load Transfer 15%	3260	.1040"	3360	.1251"
Fast. Type MS-90353	3460	.1526"	3560	.1880"
Stress Level 36.0 ksi	3660	.2322"	3675	.2453"
Test Date				
Fatigue Life 3675 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .2323"

origin at corner, chamfer at corner

.017
chamfer at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2660	.0165"	2760	.0202"
Specimen no. 242TB	2860	.0253"	2960	.0300"
Material 7475-T7351	3060	.0364"	3160	.0444"
Spectrum B-1 Bomber	3260	.0532"	3360	.0673"
Load Transfer 15%	3460	.0869"	3560	.1147"
Fast. Type MS-90353	3660	.1456"	3675	.1558"
Stress Level 36.0 ksi				
Test Date				
Fatigue Life 3675 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes: a ≈ .1517"

origin in bore of hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1100	.0079"	1200	.0126"
Specimen no. 243HA	1280	.0162"	1380	.0201"
Material 7475-T7351	1480	.0267"	1580	.0346"
Spectrum B-1 Bomber	1680	.0465"	1780	.0561"
Load Transfer 15%	1880	.0677"	1980	.0786"
Fast. Type MS-90353	2080	.0928"	2180	.1137"
Stress Level 36.0 ksi	2280	.1355"	2380	.1628"
Test Date	2480	.1977"	2560	.2647"
Fatigue Life 2589 FLTS.	2589	.2788"		
Failure Load: A)				
B)				

Initiation Location(s)
C , CS-B INTERSECTION
Notes:

two origins, read crack that originated at corner.

the origins meet at ≃ .055"

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1000	.0088"	1100	.0104"
Specimen no. 243HB	1200	.0147"	1280	.0183"
Material 7475-T7351	1380	.0228"	1480	.0251"
Spectrum B-1 Bomber	1580	.0292"	1680	.0338"
Load Transfer 15%	1780	.0394"	1880	.0461"
Fast. Type MS-90353	1980	.0512"	2080	.0568"
Stress Level 36.0 ksi	2180	.0640"	2280	.0767"
Test Date	2380	.0913"	2480	.1135"
Fatigue Life 2589 FLTS.	2560	.1338"	2589	.1363"
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set- ABXLR4	600	.0032"	700	.0056"
Specimen no. 243TA	800	.0088"	900	.0119"
Material 7475-T7351	1000	.0157"	1100	.0236"
Spectrum B-1 Bomber	1200	.0236"	1280	.0275"
Load Transfer 15%	1380	.0308"	1480	.0355"
Fast. Type MS-90353	1580	.0414"	1680	.0486"
Stress Level 36.0 ksi	1780	.0584"	1880	.0684"
Test Date	1980	.0814"	2080	.0960"
Fatigue Life 2589 FLTS.	2180	.1131"	2280	.1322"
Failure Load: A)	2380	.1599"	2480	.1928"
B)	2560	.2349"	2589	.2420"

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	700	.0055"	800	.0085"
Specimen no. 244HA	900	.0105"	1000	.0142"
Material 7475-T7351	1100	.0195"	1200	.0240"
Spectrum B-1 Bomber	1280	.0295"	1380	.0346"
Load Transfer 15%	1480	.0399"	1580	.0439"
Fast. Type MS-90353	1680	.0493"	1780	.0532"
Stress Level 36.0 ksi	1880	.0588"	1980	.0643"
Test Date	2080	.0696"	2180	.0738"
Fatigue Life 2589 FLTS.	2280	.0788"	2380	.0846"
Failure Load: A)	2480	:0909"	2560	.0964
B)	2589	.0972"		

Initiation Location(s)
C
Notes: a = .0962"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	700	.0057"	800	.0088"
Specimen no. 244TA	900	.0113"	1000	.0134"
Material 7475-T7351	1100	.0162"	1200	.0197"
Spectrum B-1 Bomber	1380	.0245"	1480	.0300"
Load Transfer 15%	1580	.0388"	1680	.0449"
Fast. Type MS-90353	1780	.0567"	1880	.0707"
Stress Level 36.0 ksi	1980	.0919"	2080	.1167"
Test Date	2180	.1483"	2280	.1841"
Fatigue Life 2589 FLTS.	2380	.2312"	2480	.2910"
Failure Load: A)	2560	.4061"	2589	.4380"
B)				

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	800	.0107"	900	.0124"
Specimen no. 245TA	1000	.0153"	1100	.0172"
Material 7475-T7351	1200	.0206"	1380	.0253"
Spectrum B-1 Bomber	1480	.0287"	1549	.0318"
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 36.0 ksi				
Test Date				
Fatigue Life 1549 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2080	.1268"	2180	.1325"
Specimen no. 246HA	2280	.1308"	2380	.1443"
Material 7475-T7351	2480	.1568"	2560	(.1690)
Spectrum B-1 Bomber	2660	.1890"	2760	.2059"
Load Transfer 15%	2860	.2276"	2960	.2571"
Fast. Type MS-90353	3060	.3007"	3149	.4045"
Stress Level 36.0 ksi				
Test Date				
Fatigue Life 3149 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.

Notes:
ORIGIN NEAR CORNER ON FAYING SURFACE

origin near corner on faying surface

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1580	.0133"	1680	.0163"
Specimen no. 246TA	1780	.0204"	1880	.0269"
Material 7475-T7351	1980	.0317"	2080	.0347"
Spectrum B-1 Bomber	2180	.0392"	2280	.0441"
Load Transfer 15%	2380	.0511"	2480	.0554"
Fast. Type MS-90353	2660	.0662"	2760	.0714"
Stress Level 36.0 ksi	2860	.0805"	2960	.0879"
Test Date	3060	.0978"	3149	.1118"
Fatigue Life 3149 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin is at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2280	.0062"	2380	.0066"
Specimen no. 246HB	2480	.0071"	2660	.0085"
Material 7475-T7351	2670	.0896"	2860	.0103"
Spectrum B-1 Bomber	2960	.0108"	3060	.0113"
Load Transfer 15%	3149	.0119"		
Fast. Type MS-90353				
Stress Level 36.0 ksi				
Test Date				
Fatigue Life 3149 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin is at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABSLR4	800	.0034"	900	.0058"
Specimen no. 247HB	1000	.0078"	1100	.0098"
Material 7475-T7351	1200	.0115"	1380	.0148"
Spectrum B-1 Bomber	1480	.0164"	1580	.0199"
Load Transfer 15%	1680	.0236"	1780	.0273"
Fast. Type MS-90353	1880	.0331"	1980	.0396"
Stress Level 36.0 ksi	2080	.0479"	2180	.0585"
Test Date	2280	.0682"	2380	.0852"
Fatigue Life 2660 FLTS.	2480	.1083"	2560	.1391"
Failure Load: A)	2660	.1827"		
B)				

Initiation Location(s)
B
Notes:

origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1980	.0098"	2080	.0113"
Specimen no. 247HA	2180	.0122"	2280	.0133"
Material 7475-T7351	2380	.0146"	2480	.0166"
Spectrum B-1 Bomber	2560	.0180"	2660	.0201"

Load Transfer 15%
Fast. Type MS-90353
Stress Level 36.0 ksi
Test Date
Fatigue Life 2660 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

origin is at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1380	.0024"	1480	.0043"
Specimen no. 247TB	1580	.0062"	1680	.0082"
Material 7475-T7351	1780	.0105"	1880	.0138"
Spectrum B-1 Bomber	1980	.0175"	2080	.0227"
Load Transfer 15%	2180	.0278"	2280	.0339"
Fast. Type MS-90353	2380	.0401"	2480	.0481
Stress Level 36.0 ksi	2560	.0599"	2660	.0724

Test Date
Fatigue Life 2660 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes: a = .0630"

origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1980	.0096"	2080	.0115"
Specimen no. 248TA	2180	.0131"	2280	.0164"
Material 7475-T7351	2380	.0193"	2480	.0222"
Spectrum B-1 Bomber	2560	.0258"	2660	.0299"
Load Transfer 15%	2760	.0346"	2860	.0384"
Fast. Type MS-90353	2960	.0427"	3060	.0489"
Stress Level 36.0 ksi	3160	.0537"	3199	.0567"
Test Date				
Fatigue Life 3199 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .0501A°

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1680	.0041"	1780	.0060"
Specimen no. 248TB	1880	.0095"	1980	.0139"
Material 7475-T7351	2080	.0208"	2180	.0284"
Spectrum B-1 Bomber	2280	.0382"	2380	.0471"
Load Transfer 15%	2480	.0577"	2560	.0662"
Fast. Type MS-90353	2660	.0807"	2760	.1022"
Stress Level 36.0 ksi	2860	.1283"	2960	.1605"
Test Date	3060	.2077"	3160	.2727"
Fatigue Life 3199 FLTS.	3199	.3505"		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .3260"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2180	.0092"	2280	.0115"
Specimen no. 248HB	2380	.0140"	2480	.0164"
Material 7475-T7351	2560	.0188"	2660	.0203"
Spectrum B-1 Bomber	2760	.0229	2860	.0252"
Load Transfer 15%	2960	.0273"	3060	.0299"
Fast. Type MS-90353	3160	.0321"	3199	.0326"
Stress Level 36.0				
Test Date				
Fatigue Life 3199 FLTS,				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1980	.0087"	2080	.0129"
Specimen no. 249HB	2180	.0159"	2280	.0198"
Material 7475-T7351	2380	.0235"	2480	.0260"
Spectrum B-1 Bomber	2560	.0281"	2660	.0305"
Load Transfer 15%	2760	.0331"	2860	.0358"
Fast. Type MS-90353	2960	.0392"	3060	.0436"
Stress Level 36.0	3160	.0487"	3260	.0529"
Test Date	3360	.0566"	3460	.0602"
Fatigue Life	3560	.0646"	3660	.0710"
Failure Load: A)	3760	.0776"	3840	.0829"
B)				

Initiation Location(s)
C
Notes: a = .0792"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2080	.0803"	2180	.0103"
Specimen no. 249TA	2280	.0132"	2380	.0163"
Material 7475-T7351	2480	.0196"	2560	.0233"
Spectrum B-1 Bomber	2660	.0263"	2760	.0297"
Load Transfer 15%	2860	.0338"	2960	.0397"
Fast. Type MS-90353	3060	.0464"	3160	.0532"
Stress Level 36.0	3260	.0608"	3360	.0719"
Test Date	3460	.0840"	3560	.1008"
Fatigue Life	3660	.1199"	2760	.1406"
Failure Load: A)	3840	.1585"		
B)				

Initiation Location(s)
C
Notes:

origin is at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1680	.0083"	1780	.0112"
Specimen no. 249HA	1880	.0148"	1980	.0179"
Material 7475-T7351	2080	.0214"	2180	.0251"
Spectrum B-1 Bomber	2280	.0280"	2380	.0319"
Load Transfer 15%	2480	.0369"	2660	.0439"
Fast. Type MS-90353	2760	.0479"	2860	.0538"
Stress Level 36.0	2960	.0596"	3060	.0667"
Test Date	3160	.0738"	3260	.0847"
Fatigue Life	3360	.0968"	3460	.1124"
Failure Load: A)	3560	.1360"	3660	.1625"
B)	3760	.2057"	3840	.2647

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	2380	.0166"	2480	.0191"
Specimen no. 250TA	2560	.0226"	2660	.0265"
Material 7475-T7351	2760	.0296"	2860	.0328"
Spectrum B-1 Bomber	2960	.0364"	3060	.0436"
Load Transfer 15%	3125	.0518"		
Fast. Type MS-90353				
Stress Level 36.0				
Test Date				
Fatigue Life 3125 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin at corner

champer .0174"

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1100	.0080"	1200	.0109"
Specimen no. 250HA	1380	.0160"	1480	.0201"
Material 7475-T7351	1580	.0246"	1680	.0301"
Spectrum B-1 Bomber	1780	.0345"	1880	.0407"
Load Transfer 15%	1980	.0463"	2080	.0503"
Fast. Type MS-90353	2180	.0558"	2280	.0621"
Stress Level 36.0	2380	.0703"	2480	.0788"
Test Date	2560	.0880"	2660	.0991"
Fatigue Life 3125 FLTS.	2760	.1144"	2860	.1313"
Failure Load: A)	2960	.1524"	3060	.1774"
B)	3125	.2128"		

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXLR4	1880	.0105"	1980	.0136"
Specimen no. 250TB	2080	.0178"	2180	.0202"
Material 7475-T7351	2280	.0243"	2380	.0272"
Spectrum B-1 Bomber	2480	.0302"	2560	.0341"
Load Transfer	2660	.0377"	2760	.0414"
Fast. Type	2860	.0472"	2960	.0522"
Stress Level	3060	.0619"	3125	.0676"
Test Date				
Fatigue Life 3125 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1000	.0041"	1100	.0051"
Specimen no. 231HA	1200	.0064"	1380	.0087"
Material 7475-T7351	1480	.0107"	1580	.0124"
Spectrum B-1 Bomber	1680	.0147"	1780	.0160"
Load Transfer 15%	1880	.0178"	1980	.0197"
Fast. Type MS-90353	2079	.0212"		
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 2079 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin is at the corner

a = .0212"

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	800	.0180"	900	.0205"
Specimen no. 232TB	1000	.0231"	1100	.0262"
Material 7475-T7351	1200	.0310"	1380	.0384"
Spectrum B-1 Bomber	1480	.0450"	1579	.0501"
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

Origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	500	.0089"	600	.0168"
Specimen no. 232TA (1579)	700	.0252"	800	.0324"
Material 7475-T7351	900	.0384"	1000	.0488"
Spectrum B-1 Bomber	1100	.0610"	1200	.0736"
Load Transfer 15%	1280	.0881"	1380	.1079"
Fast. Type MS-90353	1480	.1400"	1579	.1860"
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin near corner

a = .1795"

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1100	.0119"	1200	.0141"
Specimen no. 232HA (1579)	1280	.0164"	1380	.0196"
Material 7475-T7351	1480	.0214"	1580	.0224"
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	700	.0091"	800	.0140"
Specimen no. 233HB	900	.0196"	1000	.0246"
Material 7475-T7351	1100	.0306"	1200	.0380"
Spectrum B-1 Bomber	1280	.0441"	1380	.0517"
Load Transfer 15%	1480	.0602"	1580	.0699"
Fast. Type MS-90353	1680	.0822"	1780	.0934"
Stress Level 38.0 ksi	1880	.1069"	1979	.1248"
Test Date				
Fatigue Life 1979 FATS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	800	.0169"	900	.0183"
Specimen no. 233TA	1000	.0198"	1100	.0214"
Material 7475-T7351	1200	.0230"	1280	.0263"
Spectrum B-1 Bomber	1380	.0324"	1480	.0436"
Load Transfer 15%	1580	.0549"	1680	.0696"
Fast. Type MS-90353	1780	.0913"	1880	.1149"
Stress Level 38.0 ksi	1979	.1421"		
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1380	.0162"	1480	.0202"
Specimen no. 233TB	1580	.0253"	1680	.0338"
Material 7475-T7351	1780	.0445"	1880	.0616"
Spectrum B-1 Bomber	1979	.0919"		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1979 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

FS

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	700	.0091"	800	.0130"
Specimen no. 234HA	900	.0200"	1000	.0282"
Material 7475-T7351	1100	.0401"	1200	.0564"
Spectrum B-1 Bomber	1380	.0853"	1480	.1071"
Load Transfer 15%	1580	.1410"	1680	.1845"
Fast. TypeMS-90353	1779	.2860"		
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1779 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

origin is in the bore
of the hole.

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1280	.0360"	1380	.0431"
Specimen no. 234TA	1480	.0503"	1580	.0616"
Material 7475-T7351	1680	.0740"	1779	.0970"

Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 1779 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:



chamfer at corner $\Delta = .021"$



origin is at corner. I took readings from here:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1200	.0476"	1380	.0748"
Specimen no. 234TB	1480	.0862"	1580	.1034"
Material 7475-T7351	1680	.1255"	1779	.1557"

Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 1779 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

Origin is on the corner

Chamfer $\approx .021"$ readings from here



	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	500	.0082"	600	.0118"
Specimen no. 235HA	700	.0157"	800	.0228"
Material 7475-T7351	900	.0303"	1000	.0389"
Spectrum B-1 Bomber	1100	.0473"	1200	.0564"
Load Transfer 15%	1380	.0729"	1480	.0877"
Fast. Type MS-90353	1579	.1092"		
Stress Level 38.0				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	900	.0198"	1000	.0252"
Specimen no. 235TA	1100	.0321"	1200	.0413"
Material 7475-T7351	1380	.0588"	1480	.0661"
Spectrum B-1 Bomber	1579	.0782"		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1000	.0207"	1100	.0286"
Specimen no. 235TB	1200	.0366"	1280	.0446"
Material 7475-T7351	1380	.0572"	1480	.0697"
Spectrum B-1 Bomber	1579	.0823"		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1579 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	200	.0141"	300	.0160"
Specimen no. 236HA	400	.0178"	500	.0200"
Material 7475-T7351	600	.0223"	700	.0250"
Spectrum B-1 Bomber	800	.0281"	900	.0316"
Load Transfer 15%	1000	.0353"	1100	.0394"
Fast. Type MS-90353	1200	.0438"	1280	.0512"
Stress Level 38.0 ksi	1380	.0587"	1480	.0670"
Test Date	1580	.0769"	1680	.0879"
Fatigue Life 2379 FLTS.	1780	.1019"	1880	.1197"
Failure Load: A)	1980	.1420"	2080	.1674"
B)	2180	.2072"	2280	.2851"
	2379	.3003"		

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1200	.0186"	1380	.0287"
Specimen no. 236TA	1480	.0377"	1580	.0507"
Material 7475-T7351	1680	.0643"	1780	.0808"
Spectrum B-1 Bomber	1880	.1047"	1980	.1319"
Load Transfer 15%	2080	.1595"	2180	.1944"
Fast. Type MS-90353	2280	.2417"	2380	.3111"
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 2380 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

Origin in bore of the hole close to corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1880	.0067"	1980	.0081"
Specimen no. 236TB	2080	.0101"	2180	.0119"
Material 7475-T7351				
Spectrum B-1 Bomber	2280	.0144"	2380	.0163
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 2380 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

Chamber .021" at corner

Origin at corner for (.0223") crack

Origin in bore of the hole for .0163" crack

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1280	.0247"	1380	.0264"
Specimen no. 237HA	1480	.0279"	1580	.0296"
Material 7475-T7351	1680	.0307"	1780	.0323"
Spectrum B-1 Bomber	1880	.0339"	1980	.0357"
Load Transfer 15%	2080	.0375"	2180	.0396"
Fast. Type MS-90353	2280	.0422"	2380	.0450"
Stress Level 38.0 ksi	2480	.0479"	2560	.0520"
Test Date	2660	.0573"	2760	.0621"
Fatigue Life 3659 FLTS.	2860	.0688"	2960	.0764"
Failure Load: A)	3060	.0841"	3160	.0944"
B)	3260	.1037"	3360	.1149"
	3460	.1291"	3560	.1471"
	3659	.1657"		

Initiation Location(s)
C

Notes:

Hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1280	.0118"	1380	.0134"
Specimen no. 237HB	1480	.0150"	1580	.0167"
Material 7475-T7351	1680	.0183"	1780	.0203"
Spectrum B-1 Bomber	1880	.0221"	1980	.0237"
Load Transfer 15%	2080	.0255"	2180	.0280"
Fast. Type MS-90353	2280	.0304"	2380	.0322"
Stress Level 38.0 ksi	2480	.0352"	2580	.0387"
Test Date	2660	.0431"	2760	.0479"
Fatigue Life 3659 FLTS.	2860	.0527"	2960	.0585"
Failure Load: A)	3060	.0681"	3160	.0784"
B)	3260	.0920"	3360	.1175"
	3460	.1493"	3560	.2141"
	3659	.2359"		

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	2080	.0079"	2180	.0104"
Specimen no. 237TB	2280	.0129"	2380	.0156"
Material 7475-T7351	2480	.0185"	2560	.0216"
Spectrum B-1 Bomber	2660	.0261"	2760	.0313"
Load Transfer 15%	2860	.0374"	2960	.0469"
Fast. Type MS-90353	3060	.0595"	3160	.0769"
Stress Level 38.0 ksi	3260	.0980"	3360	.1217"
Test Date	3460	.1542"	3560	.1907"
Fatigue Life 3659 FLTS.	3659	.2442"		
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1000	.0072"	1100	.0097"
Specimen no. 238HA	1200	.0128"	1380	.0195"
Material 7475-T7351	1480	.0256"	1580	.0308"
Spectrum B-1 Bomber	1629	.0384"		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1629 FLTS.				
Failure Load: A)				
B)				

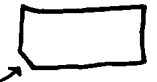
Initiation Location(s)
C
Notes:

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1280	.0312"	1380	.0381"
Specimen no. 238TA	1480	.0456"	1580	.0546"
Material 7475-T7351	1629	.0618"		
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1629 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes: a = .0581"



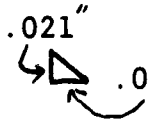
chamfer .021"

origin at corner, chamber

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1200	.0128"	1280	.0153"
Specimen no. 238TB	1380	.0181"	1480	.0216"
Material 7475-T7351	1580	.0238"	1629	.0250"
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1629 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:



Chamfer

Origin at corner (chamfer)

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1580	.0212"	1680	.0261"
Specimen no. 239TB	1780	.0317"	1880	.0393"
Material 7475-T7351	1980	.0486"	2080	.0589"
Spectrum B-1 Bomber	2180	.0732"	2280	.0895"
Load Transfer 15%	2359	.1043"		
Fast. Type MS-90353				
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 2359 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .1032"

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	700	.0223"	800	.0282"
Specimen no. 239HA	900	.0357"	1000	.0451"
Material 7475-T7351	1100	.0542"	1200	.0633"
Spectrum B-1 Bomber	1280	.0706"	1380	.0787"
Load Transfer 15%	1480	.0903"	1580	.0997"
Fast. Type MS-90353	1680	.1116"	1780	.1269"
Stress Level 38.0 ksi	1880	.1429"	1980	.1614"
Test Date	2080	.1828"	2180	.2078"
Fatigue Life 2359 FLTS.	2280	.2419"	2359	.2893"
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes: a = .2861"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1980	.0218"	2080	.0242"
Specimen no. 239TA	2180	.0259"	2280	.0281"
Material 7475-T7351	2359	.0292"		

Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 2359 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:
chamfered surface



origin on corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	1200	.0077"	1380	.0115"
Specimen no. 240HB	1480	.0143"	1580	.0179"
Material 7475-T7351	1680	.0210"	1780	.0243"
Spectrum B-1 Bomber	1829	.0288"		

Load Transfer 15%
Fast. Type MS-90353
Stress Level 38.0 ksi
Test Date
Fatigue Life 1829 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes: a = .0278"

origin at corner

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	600	.0058"	700	.0083"
Specimen no. 240TA	800	.0115"	900	.0168"
Material 7475-T7351	1000	.0231"	1100	.0299"
Spectrum B-1 Bomber	1200	.0373"	1280	.0463"
Load Transfer 15%	1380	.0557"	1480	.0668"
Fast. Type MS-90353	1580	.0824"	1680	.0981"
Stress Level 38.0 ksi	1780	.1154"	1829	.1233"
Test Date				
Fatigue Life 1829 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B

Notes: a = .1157"

origin is in the bore of the hole

	Flights	Crack Size	Flights	Crack Size
Data set ABXMR4(A)	800	.0104"	900	.0157"
Specimen no. 240TB	1000	.0182"	1100	.0218"
Material 7475-T7351	1200	.0282"	1280	.0349"
Spectrum B-1 Bomber	1380	.0454"	1480	.0628"
Load Transfer 15%	1580	.0856"	1680	.1142"
Fast. Type MS-90353	1780	.1542"	1829	.1836"
Stress Level 38.0 ksi				
Test Date				
Fatigue Life 1829 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C

Notes: a = .1793"

origin at corner

Data set ABXHR4
Specimen no. 221HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2589 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
100.	.0093	200.	.0113
300.	.0132	400.	.0153
500.	.0174	600.	.0195
700.	.0214	800.	.0238
900.	.0257	1000.	.0307
1100.	.0352	1200.	.0415
1280.	.0450	1380.	.0506
1380.	.0506	1480.	.0582
1580.	.0690	1680.	.0766
1780.	.0848	1880.	.0942
1980.	.1085	2080.	.1240
2180.	.1434	2280.	.1660
2380.	.2051	2480.	.2432
2560.	.3304	2589	.3537

Initiation Location(s)

Notes:

Data set ABXHR4
Specimen no. 221TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 2589 Flts.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1280.	.0190	1380.	.0214
1480.	.0234	1580.	.0259
1680.	.0291	1780.	.0321
1880.	.0368	1980.	.0419
2080.	.0483	2180.	.0557
2280.	.0634	2380.	.0733
2480.	.0922	2560	.1263
2589.	.1329		

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	1200.	.0155	1280.	.0180
Specimen no. 221HB	1380.	.0205	1480.	.0243
Material 7475-T7351	1580.	.0289	1680.	.0327
Spectrum B-1 Bomber	1780.	.0378	1880.	.0433
Load Transfer 15%	1980.	.0489	2080.	.0557
Fast. Type MS-90353	2180.	.0627	2280.	.0705
Stress Level 40.8 ksi	2380.	.0790	2480.	.0894
Test Date	2560.	.0970	2589.	.1007
Fatigue Life 2589 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	1200.	.0107	1380.	.0142
Specimen no. 221TA1	1480.	.0171	1580.	.0204
Material 7475-T7351	1680.	.0246	1780.	.0299
Spectrum B-1 Bomber	1880.	.0363	1980.	.0433
Load Transfer 15%	2080.	.0523	2180.	.0618
Fast. Type MS-90353	2280.	.0744	2380.	.0883
Stress Level 40.8 ksi	2480.	.1013	2560.	.1109
Test Date				
Fatigue Life 2589 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	700.	.0160	800.	.0196
Specimen no. 222HB	900.	.0257	1000.	.0323
Material 7475-T7351	1100.	.0409	1200.	.0541
Spectrum B-1 Bomber	1280.	.0698		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	500.	.0089	600.	.0130
Specimen no. 222TB1	700.	.0185	800.	.0241
Material 7475-T7351	900.	.0309	1000.	.0391
Spectrum B-1 Bomber	1100.	.0491	1200.	.0609
Load Transfer 15%	1280.	.0708		
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
	300.	.0120	400.	.0168
	500.	.0229	600.	.0306
	700.	.0429	800.	.0583
	900.	.0805	1000.	.1161
	1099.	.1906		

Data set ABXHR4
Specimen no. 223HA1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
	500.	.0112	600.	.0198
	700.	.0295	800.	.0381
	900.	.0484	1000.	.0607
	1099.	.0654		

Data set ABXHR4
Specimen no. 223HB2
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 1099 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C.S.-B INTERSECTION
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	400.	.0043	500.	.0079
Specimen no. 223TA1	600.	.0111	700.	.0157
Material 7475-T7351	800.	.0233	900.	.0323
Spectrum B-1 Bomber	1000.	.0433	1099.	.0529

Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 1099 FLTS,
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	500.	.0158	600.	.0208
Specimen no. 224TA	700.	.0270	800.	.0325
Material 7475-T7351	900.	.0379	939.	.0393
Spectrum B-1 Bomber				

Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 939 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	600.	.0192	700.	.0250
Specimen no. 224TB	800.	.0321	900.	.0393
Material 7475-T7351	939.	.0490		
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 939 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	500.	.0160	600.	.0269
Specimen no. 224HB2	700.	.0378	800.	.0509
Material 7475-T7351	900.	.0645	993.	.0772
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	800.	.0120	900.	.0200
Specimen no. 225HA1	1000.	.0303	1100.	.0407
Material 7475-T7351	1200.	.0526	1380.	.0811
Spectrum P-1 Bomber	1480.	.1053	1580.	.1395
Load Transfer 15%	1679.	.1890		
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1679 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	400.	.0108	500.	.0131
Specimen no. 225HB1	600.	.0199	700.	.0292
Material 7475-T7351	800.	.0378	900.	.0468
Spectrum B-1 Bomber	1000.	.0569	1100.	.0643
Load Transfer 15%	1200.	.0757	1280.	.0861
Fast. Type MS-90353	1380.	.1002	1480.	.1221
Stress Level 40.8 ksi	1580.	.1591	1679.	.2267
Test Date				
Fatigue Life 1679 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	700.	.0159	800.	.0229
Specimen no. 225TA2	900.	.0302	1000.	.0368
Material 7475-T7351	1100.	.0449	1200.	.0535
Spectrum B-1 Bomber	1280.	.0630	1380.	.0917
Load Transfer 15%	1480.	.1163	1580.	.1551
Fast. Type MS-90353	1679.	.2461		
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1679 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	200.	.0174	300.	.0212
Specimen no. 226HA1	400.	.0288	500.	.0394
Material 7475-T7351	600.	.0497	700.	.0641
Spectrum B-1 Bomber	800.	.0790	900.	.0970
Load Transfer 15%	1000.	.1197	1100.	.1533
Fast. Type MS-90353	1179.	.2030		
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1179 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	400.	.0117	500.	.0206
Specimen no. 227TA2	600.	.0344	700.	.0501
Material 7475-T7351	799.	.0821		
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 799 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	300.	.0305	400.	.0348
Specimen no. 226HB1	500.	.0433	600.	.0583
Material 7475-T7351	700.	.0728	800.	.0899
Spectrum B-1 Bomber	900.	.1118	1000.	.1419
Load Transfer 15%	1100.	.1896	1179.	.2944
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1179 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	600.	.0025	700.	.0037
Specimen no. 226TA1	800.	.0051	900.	.0068
Material 7475-T7351	1000.	.0083	1100.	.0109
Spectrum B-1 Bomber	1179.	.0148		
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1179 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	300.	.0096	400.	.0154
Specimen no. 227TB1	500.	.0241	600.	.0376
Material 7475-T7351	700.	.0542	799.	.0778
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 799 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

Flights	Crack Size	Flights	Crack Size
400.	.0081	500.	.0168
600.	.0256	700.	.0371
799.	.0529		

Data set ABXHR4
Specimen no. 227HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 799 Flts.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

Flights	Crack Size	Flights	Crack Size
200.	.0104	300.	.0208
400.	.0295	500.	.0369
600.	.0458	700.	.0522
800.	.0624	839.	Ground away

Data set ABXHR4
Specimen no. 228HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 839 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	600.	.0185	700.	.0264
Specimen no. 228TA	800.	.0348	839.	.0401

Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 839 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	400.	.0324	500.	.0391
Specimen no.228TB	600.	.0480	700.	.0555
Material 7475-T7351	700.	.0555	800.	.0653
Spectrum B-1 Bomber	839.	.0715		

Load Transfer 15%
Fast. Type MS-90353
Stress Level 40.8 ksi
Test Date
Fatigue Life 839 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	1100.	.0352	1200.	.0439
Specimen no. 229BH	1380.	.0578	1480.	.0689
Material 7475-T7351	1580.	.0799	1619.	.0885
Spectrum B-1 Bomber				
Load Transfer 15%				
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 1619 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	500.	.0147	600.	.0158
Specimen no. 230HB	700.	.0169	800.	.0188
Material 7475-T7351	900.	.0212	1000.	.0238
Spectrum B-1 Bomber	1100.	.0264	1200.	.0295
Load Transfer 15%	1280.	.0324	1380.	.0380
Fast. Type MS-90353	1480.	.0444	1580.	.0510
Stress Level 40.8 ksi	1680.	.0597	1780.	.0662
Test Date	1880.	.0753	1980.	.0849
Fatigue Life 2149 FLTS.	2080.	.0929		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABXHR4	1380.	.0335	1480.	.0413
Specimen no. 230TA1	1580.	.0497	1680.	.0586
Material 7475-T7351	1780.	.0687	1880.	.0810
Spectrum B-1 Bomber	1980.	.0941	2080.	.1103
Load Transfer 15%	2149.	.1224		
Fast. Type MS-90353				
Stress Level 40.8 ksi				
Test Date				
Fatigue Life 2149 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)

C

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2480.	.0128	2560.	.0140
Specimen no. 145TA2	2660.	.0160	2760.	.0176
Material 7475-T7351	2860.	.0198	2960.	.0227
Spectrum B-1 Bomber	3060.	.0259	3160.	.0291
Load Transfer 30%	3260.	.0321	3360.	.0360
Fast. Type MS-90353	3460.	.0408	3560.	.0457
Stress Level 34 ksi	3660.	.0511	3760.	.0576
Test Date	3840.	.0645		
Fatigue Life 3840 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2760.	.0142	2860.	.0147
Specimen no. 145HA2	2960.	.0151	3060.	.0158
Material 7475-T7351	3160.	.0163	3260.	.0169
Spectrum B-1 Bomber	3360.	.0176	3460.	.0184
Load Transfer 30%	3560.	.0191	3660.	.0202
Fast. Type MS-90353	3760.	.0212	3840.	.0216
Stress Level 34 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.1285	4040.	.1397
Specimen no. 146TB1	4140.	.1542	4240.	.1716
Material 7475-T7351	4340.	.1904	4440.	.2100
Spectrum B-1 Bomber	4540.	.2320	4609.	.2423

Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 4609 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2380.	.0304	2480.	.0330
Specimen no. 146TB1	2560.	.0351	2660.	.0380
Material 7475-T7351	2760.	.0420	2860.	.0460
Spectrum B-1 Bomber	2960.	.0499	3060.	.0550
Load Transfer 30%	3160.	.0616	3260.	.0672
Fast. Type MS-90353	3360.	.0741	3460.	.0818
Stress Level 34 ksi	3560.	.0888	3660.	.0980
Test Date	3760.	.1074		
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0425	4040.	.0461
Specimen no. 146HA2	4140.	.0501	4240.	.0540
Material 7475-T7351	4340.	.0596	4440.	.0650
Spectrum B-1 Bomber	4540.	.0734	4609.	.0808

Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 4609 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2380.	.0178	2480.	.0186
Specimen no. 146HA2	2660.	.0209	2760.	.0218
Material 7475-T7351	2860.	.0229	2960.	.0241
Spectrum B-1 Bomber	3060.	.0252	3160.	.0263
Load Transfer 30%	3260.	.0277	3360.	.0293
Fast. Type MS-90353	3460.	.0312	3560.	.0326
Stress Level 34 ksi	3660.	.0345	3760.	.0375

Test Date
Fatigue Life 4609 Flts.
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0288	4040.	.0351
Specimen no. 147HA2	4140.	.0441	4240.	.0534
Material 7475-T7351	4340.	.0647	4479.	.0858
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date				
Fatigue Life 4479				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3360.	.0154	3460.	.0164
Specimen no. 147HA2	3560.	.0177	3660.	.0214
Material 7475-T7351	3760.	.0239	3840.	.0252
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date				
Fatigue Life 4479 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0298	4040.	.0326
Specimen no. 147TA1	4140.	.0355	4240.	.0383
Material 7475-T7351	4340.	.0409	4440.	.0443
Spectrum B-1 Bomber	4479.	.0480		

Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 4479 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3160.	.0130	3260.	.0146
Specimen no. 147TA1	3360.	.0164	3460.	.0184
Material 7475-T7351	3560.	.0206	3660.	.0227
Spectrum B-1 Bomber	3760.	.0248	3840.	.0271

Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 4479 Flts.
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0103	4040.	.0112
Specimen no. 148TA2	4140.	.0121	4240.	.0131
Material 7475-T7351	4340.	.0141	4440.	.0152
Spectrum B-1 Bomber	4540.	.0164	4640.	.0177
Load Transfer 30%	4740.	.0189	4840.	.0204
Fast. Type MS-90353	4940.	.0221	5040.	.0240
Stress Level 34 ksi	5120.	.0260	5220.	.0280
Test Date	5320.	.0300	5420.	.0322
Fatigue Life 5809 FLTS.	5520.	.0344	5620.	.0362
Failure Load: A)	5720.	.0389	5808.7	.0418
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3460.	.0063	3560.	.0071
Specimen no. 148TA2	3660.	.0080	3760.	.0089
Material 7475-T7351				
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date				
Fatigue Life 5808.7 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	4740.	.0628	4840.	.0683
Specimen no. 148HA2	4940.	.0744	5040.	.0809
Material 7475-T7351	5220.	.0976	5320.	.1107
Spectrum B-1 Bomber	5420.	.1260	5520.	.1433
Load Transfer 30%	5620.	.1623	5720.	.1888
Fast. Type MS-90353	5809	.2363		
Stress Level 34 ksi				
Test Date				
Fatigue Life 5809 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0369	4040.	.0399
Specimen no. 148HB2	4140.	.0431	4240.	.0459
Material 7475-T7351	4340.	.0488	4440.	.0524
Spectrum B-1 Bomber	4540.	.0559	4640.	.0600
Load Transfer 30%	4740.	.0641	4840.	.0684
Fast. Type MS-90353	4940.	.0774	5040.	.0850
Stress Level 34 ksi	5120	.0991	5220.	.1100
Test Date	5320.	.1241	5520.	.1540
Fatigue Life 5809 FLTS.	5620.	.1752	5720.	.1954
Failure Load: A)	5809.	.2118		
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0325	4040.	.0337
Specimen no. 148HB1	4140.	.0353	4240.	.0369
Material 7475-T7351	4340.	.0381	4440.	.0397
Spectrum B-1 Bomber	4540.	.0415	4608.	.0431
Load Transfer 30%	4740.	.0442	4840.	.0458
Fast. Type MS-90353	4940.	.0471	5040.	.0483
Stress Level 34 ksi	5120.	.0498	5220.	.0507
Test Date	5320.	.0520	5420.	.0532
Fatigue Life 5809 FLTS.	5520.	.0544	5620.	.0560
Failure Load: A)	5720.	.0573	5809.	.0576
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2180.	.0099	2280.	.0108
Specimen no. 148HB1	2380.	.0116	2480.	.0126
Material 7475-T7351	2560.	.0138	2660.	.0149
Spectrum B-1 Bomber	2760.	.0160	2860.	.0169
Load Transfer 30%	2960.	.0180	3060.	.0190
Fast. Type MS-90353	3160.	.0200	3360.	.0226
Stress Level 34 ksi	3460.	.0240	3560.	.0256
Test Date	3660.	.0273	3760.	.0290
Fatigue Life	3840.	.0307		
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.1083	4040.	.1118
Specimen no. 149HB2	4140.	.1158	4240.	.1195
Material 7475-T7351	4340.	.1231	4440.	.1268
Spectrum B-1 Bomber	4540.	.1305	4640.	.1352
Load Transfer 30%	4740.	.1395	4840.	.1451
Fast. Type MS-90353	4940.	.1524	5040.	.1597
Stress Level 34 ksi	5120.	.1714	5220.	.1862
Test Date	5320.	.2047	5359.	.2164

Fatigue Life 5359 FLTS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	4040.	.0186	4140.	.0262
Specimen no. 149TB2	4240.	.0322	4340.	.0382
Material 7475-T7351	4440.	.0454	4540.	.0516
Spectrum B-1 Bomber	4640.	.0577	4740.	.0660
Load Transfer 30%	4840.	.0757	4940.	.0846
Fast. Type MS-90353	5040.	.0970	5120.	.1096
Stress Level 34 ksi	5220.	.1236	5320.	.1453
Test Date	5359.	.1596		

Fatigue Life 5359 FLTS.
Failure Load: A)
B)

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	4740.	.0032	4840.	.0038
Specimen no. 149TA2	4940.	.0042	5040.	.0049
Material 7475-T7351	5120.	.0055	5220.	.0065
Spectrum B-1 Bomber	5320.	.0083	5360.	.0088

Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 5360 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3940.	.0795		

Specimen no. 150TB1
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 3940 FLTS.
Failure Load: A)
B)

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2660.	.0209	2760.	.0226
Specimen no. 150TB1	2860.	.0247	2960.	.0270
Material 7475-T7351	3060.	.0295	3160.	.0316
Spectrum B-1 Bomber	3260.	.0350	3360.	.0384
Load Transfer 30%	3460.	.0423	3560.	.0481
Fast. Type MS-90353	3660.	.0539	3760.	.0606
Stress Level 34 ksi	3939.	.0751		
Test Date				
Fatigue Life 3940 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	800.	.0103	900.	.0136
Specimen no. 257HA	1000.	.0152	1100.	.0187
Material 7475-T7351	1200.	.0227	1280.	.0297
Spectrum B-1 Bomber	1380.	.0307	1480.	.0347
Load Transfer 30%	1580.	.0398	1680.	.0443
Fast. Type MS-90353	1780.	.0475	1880.	.0522
Stress Level 34 ksi	1980.	.0568	2080.	.0609
Test Date	2180.	.0669	2280.	.0728
Fatigue Life 2649 FLTS.	2380.	.0792	2480.	.0897
Failure Load: A)	2649.	.1059		
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	1280.	.0215	1380.	.0240
Specimen no. 257TB	1480.	.0280	1580.	.0329
Material 7475-T7351	1680.	.0356	1780.	.0420
Spectrum B-1 Bomber	1880.	.0492	1980.	.0560
Load Transfer 30%	2080.	.0663	2180.	.0786
Fast. Type MS-90353	2280.	.0935	2380.	.1094
Stress Level 34 ksi	2480.	.1273	2560.	.1434
Test Date	2649.	.1622		

Fatigue Life 2649 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	800.	.0229	900.	.0246
Specimen no. 258TA	1000.	.0272	1100.	.0292
Material 7475-T7351	1200.	.0314	1280.	.0326
Spectrum B-1 Bomber	1380.	.0344	1480.	.0358
Load Transfer 30%	1580.	.0378	1680.	.0407
Fast. Type MS-90353	1780.	.0445	1880.	.0482
Stress Level 34 ksi	1980.	.0518	2080.	.0556
Test Date	2180.	.0001	2280.	.0651
	2380.	.0702	2439.	.0770

Fatigue Life 2439 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	2380.	.0173	2439.	.0223

Specimen no. 258HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 2439 FLTS,
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	1100.	.0145	1200.	.0159
	1280.	.0168	1380.	.0178
	1480.	.0188	1580.	.0202
	1680.	.0223	1780.	.0244
	1880.	.0265	1980.	.0281
	2080.	.0311	2180.	.0335
	2280.	.0376	2380.	.0392
	2480.	.0418	2560.	.0444
	2660.	.0481	2760.	.0510
	2860.	.0547	2960.	.0580
	3060.	.0612	3160.	.0645
	3260.	.0694	3360.	.0755
	3460.	.0846		

Specimen no. 259HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 34 ksi
Test Date
Fatigue Life 3560 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C.S. - B INTERSECTION
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	3360.	.0206	3460.	.0242
Specimen no. 259TA	3560.	.0274		
Material 7475-T7351				
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 34 ksi				
Test Date				
Fatigue Life 3560 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYLR4	1880.	.0405	1980.	.0427
Specimen no. 259TB	2080.	.0451	2180.	.0487
Material 7475-T7351	2280.	.0503	2380.	.0551
Spectrum B-1 Bomber	2480.	.0595	2560.	.0674
Load Transfer 30%	2660.	.0767	2760.	.0854
Fast. Type MS-90353	2860.	.0972	2960.	.1118
Stress Level 34 ksi	3060.	.1295	3160.	.1489
Test Date	3260.	.1715	3360.	.2040
Fatigue Life 3560 FLTS.	3460.	.2485		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	3060	.0285	3260	.0321
Specimen no. 151TB1	3360	.0341	3460	.0362
Material 7475-T7351	3560	.0385	3660	.0413
Spectrum B-1 Bomber	3760	.0437	3840	.0442
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 36 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	2480	.0178	2660	.0214
Specimen no. 151HA2	2760	.0234	2860	.0260
Material 7475-T7351	3060	.0307	3160	.0331
Spectrum B-1 Bomber	3260	.0359	3360	.0392
Load Transfer 30%	3560	.0446	3660	.0476
Fast. Type MS-90353	3760	.0508	3840	.0523
Stress Level 36 ksi				
Test Date				
Fatigue Life				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	2380	.0238		

Specimen no. 260TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 2380 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	2380	.0222		

Specimen no. 260HB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 2380 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C.S. - B INTERSECTION
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1880	.0423	1980	.0453
Specimen no. 261TA	2080	.0491	2180	.0531
Material 7475-T7351	2280	.0590	2380	.0634
Spectrum B-1 Bomber	2480	.0688	2660	.0854
Load Transfer 30%	2760	.0952	2860	.1080
Fast. Type MS-90353	2960	.1202	3060	.1355
Stress Level 36 ksi	3160	.1526	3260	.1736
Test Date	3360	.2000	3460	.2328
Fatigue Life 3549 FLTS.	2549	.2777		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	3260	.0140	3360	.0303
Specimen no. 261HA	3460	.0519	3560	.0753
Material 7475-T7351				
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 36 ksi				
Test Date				
Fatigue Life 3549 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	3560	.0228		

Specimen no. 261TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 3560 FLTS.
Failure Load: A)
B)

Initiation Location(s)
F.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	600	.0049	700	.0077
Specimen no. 262HB	800	.0115	900	.0158
Material 7475-T7351	1000	.0187	1100	.0222
Spectrum B-1 Bomber	1200	.0257	1380	.0319
Load Transfer 30%	1480	.0370	1580	.0426
Fast. Type MS-90353	1680	.0497	1780	.0551
Stress Level 36 ksi	1880	.0668	1980	.0819
Test Date	2080	.1061	2180	.1476

Fatigue Life 2180 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	400	.0003	500	.0038
Specimen no. 262HA	600	.0070	700	.0110
Material 7475-T7351	800	.0155	900	.0212
Spectrum B-1 Bomber	1000	.0287	1100	.0329
Load Transfer 30%	1200	.0381	1280	.0413
Fast. Type MS-90353	1380	.1460	1480	.0511
Stress Level 36 ksi	1580	.0553	1680	.0608
Test Date	1780	.0670	1880	.0718
Fatigue Life 2180 FLTS.	1980	.0775	2080	.0838
Failure Load: A)	2180	.0896		
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	300	.0012	400	.0018
Specimen no. 262TB	500	.0025	600	.0028
Material 7475-T7351	700	.0031	800	.0037
Spectrum B-1 Bomber	900	.0044	1000	.0052
Load Transfer 30%	1100	.0065	1200	.0080
Fast. Type MS-90353	1380	.0015	1480	.0130
Stress Level 36 ksi	1580	.0154	1680	.0177
Test Date	1780	.0201	1880	.0225
Fatigue Life 2180 FLTS.	1980	.0255	2080	.0286
Failure Load: A)	2180	.0321		
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1599	.0240		

Specimen no. 263HA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 1599 FLTS.
Failure Load: A)
B)

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1100	.0195	1200	.0235
Specimen no. 263TB	1380	.0315	1480	.0341
Material 7475-T7351	1580	.0365	1599	.0385

Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 1599 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	800	.0095	900	.0125
Specimen no. 264HA	1000	.0152	1100	.0180
Material 7475-T7351	1200	.0213	1280	.0243
Spectrum B-1 Bomber	1280	.0243	1380	.0275
Load Transfer 30%	1480	.0312	1580	.0366
Fast. Type MS-90353	1680	.0404	1780	.0456
Stress Level 36 ksi	1880	.0515	1980	.0570
Test Date	2080	.0620	2180	.0678
Fatigue Life 2380 FLTS.	2280	.0736	2380	.0795
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	400	.0070	500	.0080
Specimen no. 264HB	600	.0119	700	.0160
Material 7475-T7351	800	.0213	900	.0269
Spectrum B-1 Bomber	1000	.0328	1100	.0393
Load Transfer 30%	1200	.0428	1280	.0484
Fast. Type MS-90353	1380	.0531	1480	.0576
Stress Level 36 ksi	1580	.0694	1680	.0807
Test Date	1780	.0916	1880	.1041
Fatigue Life 2380 FLTS.	1980	.1205	2080	.1450
Failure Load: A)	2180	.1725	2280	.2099
B)	2380	.2905		

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	2380	.0145		

Specimen no. 264TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 2380 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1380	.0083	1480	.0094
Specimen no. 265HB	1580	.0107	1680	.0119
Material 7475-T7351	1780	.0126	1880	.0137
Spectrum B-1 Bomber	1980	.0148	2080	.0163
Load Transfer 30%	2180	.0177	2280	.0192
Fast. Type MS-90353	2380	.0210	2480	.0226
Stress Level 36 ksi	2660	.0261	2760	.0283
Test Date	2860	.0309	2960	.0331
Fatigue Life 3609 FLTS.	3090	.0356		

Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	3009	.0459		

Specimen no. 265TA
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 36 ksi
Test Date
Fatigue Life 3009 FLTS.
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1480	.0133	1580	.0170
Specimen no. 265TB	1680	.0201	1780	.0225
Material 7475-T7351	1880	.0258	1980	.0328
Spectrum B-1 Bomber	2080	.0393	2180	.0454
Load Transfer 30%	2280	.0530	2380	.0620
Fast. Type MS-90353	2480	.0720	2560	.0811
Stress Level 36 ksi	2660	.1010	2760	.1203
Test Date	2860	.1474	2960	.1805
Fatigue Life 3009 FLTS.	3009	.2080		

Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1480	.0072	1580	.0089
Specimen no. 266HB	1680	.0105	1780	.0130
Material 7475-T7351	1880	.0151	1980	.0183
Spectrum B-1 Bomber	2080	.0220	2180	.0238
Load Transfer 30%	2280	.0255	2309	.0279
Fast. Type MS-90353				
Stress Level 36 ksi				
Test Date				
Fatigue Life 2309 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	700	.0067	800	.0092
Specimen no. 267TB	900	.0119	1000	.0141
Material 7475-T7351	1100	.0164	1200	.0199
Spectrum B-1 Bomber	1280	(.0226)	1380	.0257
Load Transfer 30%	1480	.0297	1580	.0336
Fast. Type MS-90353	1680	.0393	1780	.0430
Stress Level 36 ksi	1880	.0486	1980	.0553
Test Date	2080	.0641	2180	.0728
Fatigue Life 3035 FLTS.	2280	.0832	2380	.0971
Failure Load: A)	2480	.1119	2560	(.1230)
B)	2660	.1454	2760	.1709
	2860	.2009	2960	.2404

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1000	.0119	1100	.0132
Specimen no. 267HA	1200	.0161	1280	.0192
Material 7475-T7351	1380	.0223	1480	.0247
Spectrum B-1 Bomber	1580	.0275	1680	.0304
Load Transfer 30%	1780	.0339	1880	.0382
Fast. Type MS-90353	1980	.0432	2080	.0461
Stress Level 36 ksi	2180	.0514	2280	.0572
Test Date	2380	.0630	2480	.0689
Fatigue Life 3035 FLTS.	2560	.0732	2660	.0774
Failure Load: A)	2760	.0822	2860	.0857
B)	2960	.0880		

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYMR4	1680	.0090	1780	.0098
Specimen no. 267HB	1880	.0113	1980	.0123
Material 7475-T7351	2860	.0136	2180	.0150
Spectrum B-1 Bomber	2280	.0169	2380	.0186
Load Transfer 30%	2480	.0204	2560	.0245
Fast. Type MS-90353	2660	.0274	2760	.0321
Stress Level 36 ksi	2860	.0352	2960	.0379
Test Date	3035	.0409		
Fatigue Life 3035 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
CS. - B INTERSECTION
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1480.	.0382	1580.	.0431
Specimen no. 152HA2	1680.	.0482	1780.	.0523
Material 7475-T7351	1880.	.0572	1980.	.0615
Spectrum B-1 Bomber	2080.	.0666	2180.	.0718
Load Transfer 30%	2280.	.0771	2380.	.0843
Fast. Type MS-90353	2480.	.0929	2660.	.1112
Stress Level 38 ksi	2760.	.1248	2859.	.1394
Test Date				
Fatigue Life 2859 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1680.	.0283	1780.	.0343
Specimen no. 152TA2	1980.	.0490	2080.	.0635
Material 7475-T7351	2180.	.0757	2280.	.0899
Spectrum B-1 Bomber	2380.	.1054	2480.	.1239
Load Transfer 30%	2660.	.1616	2760.	.1862
Fast. Type MS-90353	2859.	.2162		
Stress Level 38 ksi				
Test Date				
Fatigue Life 2859 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	2080.	.0298	2180.	.0333
Specimen no. 152HB1	2280.	.0363	2380.	.0403
Material 7475-T7351	2480.	.0441	2560.	.0462
Spectrum B-1 Bomber	2660.	.0488	2760.	.0517
Load Transfer 30%	2859.	.0527		
Fast. Type MS-90353				
Stress Level 38 ksi				
Test Date				
Fatigue Life 2859 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1280.	.0079	1380.	.0102
Specimen no. 153HB2	1480.	.0123	1580.	.0144
Material 7475-T7351	1680.	.0196	1780.	.0232
Spectrum B-1 Bomber	1880.	.0261	1980.	.0319
Load Transfer 30%	2080.	.0375	2180.	.0420
Fast. Type MS-90353	2280.	.0465	2380.	.0514
Stress Level 38 ksi	2480.	.0537	2560.	.0575
Test Date	2659.	.0621		
Fatigue Life 2659 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1880.	.0916	1980.	.1019
Specimen no. 153HA2	2080.	.1145	2180.	.1205
Material 7475-T7351	2280.	.1352	2380.	.1558
Spectrum B-1 Bomber	2480.	.1837	2560.	.2146
Load Transfer 30%	2659.	.2830		
Fast. Type MS-90353				
Stress Level 38 ksi				
Test Date				
Fatigue Life 2659 Flts.				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1980.	.0044	2080.	.0050
Specimen no. 153TA2	2180.	.0056	2280.	.0063
Material 7475-T7351	2380.	.0077	2480.	.0090
Spectrum B-1 Bomber	2560.	.0105	2659.	.0140
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 38 ksi				
Test Date				
Fatigue Life 2659 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C.S.
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1880.	.0412	1980.	.0484
Specimen no. 154HA2	2080.	.0564	2180.	.0645
Material 7475-T7351	2280.	.0746	2369.	.0850
Spectrum B-1 Bomber				
Load Transfer 30%				
Fast. Type MS-90353				
Stress Level 38 ksi				
Test Date				
Fatigue Life 2369 FLTS				
Failure Load: A)				
B)				

Initiation Location(s)

Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1100.	.0101	1200.	.0116
Specimen no. 156HB2	1280.	.0124	1380.	.0134
Material 7475-T7351	1480.	.0142	1580.	.0157
Spectrum B-1 Bomber	1680.	.0175	1780.	.0194
Load Transfer 30%	1880.	.0215	1980.	.0238
Fast. Type MS-90353	2080.	.0263	2180.	.0290
Stress Level 38 ksi	2280.	.0337	2380.	.0437
Test Date	2480.	.0696	2559.	.0813
Fatigue Life 2559 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1780.	.0216	1880.	.0227
Specimen no. 156TB1	1980.	.0238	2080.	.0244
Material 7475-T7351	2180.	.0251	2280.	.0259
Spectrum B-1 Bomber	2380.	.0269	2480.	.0284

Load Transfer 30%
Fast. Type MS-90353
Stress Level 38 ksi
Test Date
Fatigue Life 2560 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	500.	.0016	600.	.0042
Specimen no. 251HB	700.	.0063	800.	.0094
Material 7475-T7351	900.	.0138	1000.	.0168
Spectrum B-1 Bomber	1100.	.0216	1200.	.0262
Load Transfer 30%	1280.	.0309	1380.	.0351
Fast. Type MS-90353	1480.	.0403	1580.	.0457
Stress Level 38 ksi	1680.	.0516	1780.	.0561
Test Date	1880.	.0619	1980.	.0671
Fatigue Life 2039 FLTS.	2039.	.0739		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1780.	.0117	1880.	.0146
Specimen no. 251TA	1980.	.0172	2039.	.0196

Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 38 ksi
Test Date
Fatigue Life 2039 FLTS.
Failure Load: A)
B)

Initiation Location(s)
B
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1780.	.0069	1880.	.0087
Specimen no. 251TB	1980.	.0101	2039.	.0117

Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 38 ksi
Test Date
Fatigue Life 2039
Failure Load: A)
B)

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1580.	.0128	1680.	.0152
Specimen no. 252HA	1780.	.0173	1880.	.0196
Material 7475-T7351	1980.	.0214	2080.	.0245
Spectrum B-1 Bomber	2180.	.0290	2280.	.0343
Load Transfer 30%	2380.	.0396	2480.	.0465
Fast. Type MS-90353	2560.	.0546	2660.	.0635
Stress Level 38 ksi	2760.	.0721	2860.	.0860
Test Date	2960.	.1005	3060.	.1168
Fatigue Life 3478 FLTS.	3160.	.1434	3260.	.1741
Failure Load: A)	3360.	.2202	3460.	.3313
B)	3478.	.3623		

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1980.	.0336	2080.	.0366
Specimen no. 252HB	2180.	.0418	2280.	.0454
Material 7475-T7351	2380.	.0490	2480.	.0523
Spectrum B-1 Bomber	2560.	.0554	2660.	.0583
Load Transfer 30%	2760.	.0620	2860.	.0650
Fast. Type MS-90353	2960.	.0699	3060.	.0734
Stress Level 38 ksi	3160.	.0763	3260.	.0810
Test Date	3360.	.0832	3460.	.0855
Fatigue Life 3478 FLTS.	3479.	.0871		
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1100.	.0221	1200.	.0283
Specimen no. 253HB	1280.	.0346	1380.	.0415
Material 7475-T7351	1480.	.0488	1580.	.0560
Spectrum B-1 Bomber	1680.	.0628	1780.	.0694
Load Transfer 30%	1880.	.0797	1980.	.0859
Fast. Type MS-90353	2080.	.0938	2180.	.1042
Stress Level 38 ksi	2280.	.1132	2380.	.1214
Test Date	2480.	.1319	2589.	.1547
Fatigue Life 2589 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1380.	.0268	1480.	.0330
Specimen no. 253TA	1580.	.0398	1680.	.0494
Material 7475-T7351	1780.	.0567	1880.	.0663
Spectrum B-1 Bomber	1980.	.0755	2080.	.0881
Load Transfer 30%	2180.	.1039	2280.	.1201
Fast. Type MS-90353	2380.	.1399	2480.	.1619
Stress Level 38 ksi	2560.	.1826	2589.	.1878
Test Date				
Fatigue Life 2589 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	1780.	.0424	1880.	.0477
Specimen no. 253TB	1980.	.0527	2080.	.0606
Material 7475-T7351	2180.	.0668	2280.	.0732
Spectrum B-1 Bomber	2380.	.0820	2480.	.0920
Load Transfer 30%	2560.	.1096	2589.	.1161
Fast. Type MS-90353				
Stress Level 38 ksi				
Test Date				
Fatigue Life 2589 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

	Flights	Crack Size	Flights	Crack Size
Data set ABYHR4	2080.	.0423	2180.	.0462
Specimen no. 254HA	2280.	.0514	2380.	.0541
Material 7475-T7351	2480.	.0589	2560.	.0656
Spectrum B-1 Bomber	2660.	.0722	2760.	.0799
Load Transfer 30%	2860.	.0901	2960.	.0996
Fast. Type MS-90353	3060.	.1144	3160.	.1348
Stress Level 38 ksi				
Test Date				
Fatigue Life 3260 FLTS.				
Failure Load: A)				
B)				

Initiation Location(s)
C
Notes:

Data set ABYHR4
Specimen no. 254TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 38 ksi
Test Date
Fatigue Life 3260 FLTS.
Failure Load: A)
B)

Flights	Crack Size	Flights	Crack Size
1780.	.0352	1880.	.0402
1980.	.0442	2080.	.0499
2180.	.0531	2280.	.0597
2380.	.0665	2480.	.0753
2560.	.0809	2660.	.0866
2760.	.0940	2860.	.1046
2960.	.1193	3060.	.1285
3160.	.1451		

Initiation Location(s)
C
Notes:

Data set ABYHR4
Specimen no. 255TB
Material 7475-T7351
Spectrum B-1 Bomber
Load Transfer 30%
Fast. Type MS-90353
Stress Level 38 ksi
Test Date
Fatigue Life 1529 FLTS.
Failure Load: A)
B)

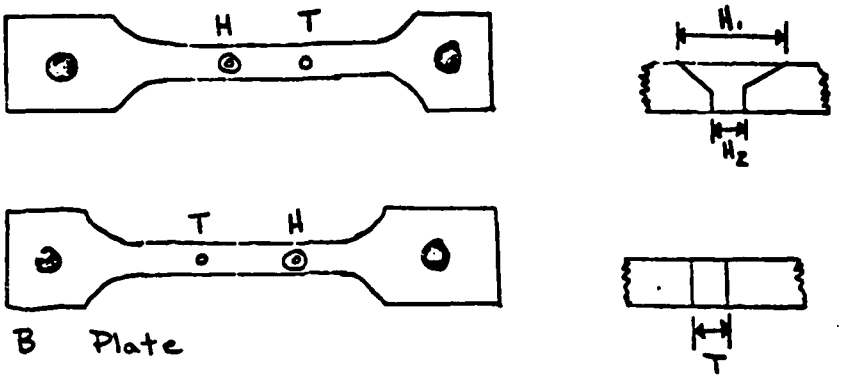
Flights	Crack Size	Flights	Crack Size
1529	.026		

Initiation Location(s)
C
Notes:

APPENDIX D

Measured Hole Dimensions

A Plate

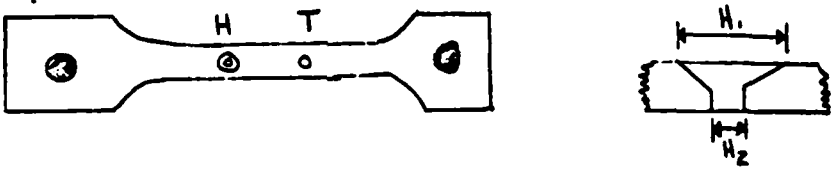


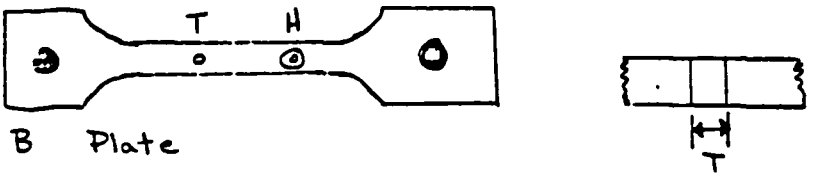
B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A (In.)			PLATE B (In.)		
	H_1	H_2	T	H_1	H_2	T
221	.4905	.2605	.2610	.4900	.2580	.2600
222	.4900	.2600	.2610	.4880	.2600	.2600
223	.4960	.2600	.2600	.4940	.2605	.2600
224	.4995	.2605	.2610	.4945	.2605	.2600
225	.4940	.2600	.2600	.4865	.2605	.2615
226	.4915	.2615	.2605	.4895	.2605	.2600
227	.4915	.2595	.262	.4945	.2605	.2600
228	.4970	.2605	.2605	.4935	.2605	.2605
229	.5025	.2600	.2600	.4965	.2600	.2600
230	.4885	.2615	.2605	.4880	.2615	.2620
231	.4935	.2600	.2600	.4955	.2600	.2600
232	.4785	.2605	.2605	.4800	.2605	.2610
233	.4910	.2610	.2600	.4930	.2605	.2600
234	.4910	.2600	.2600	.4935	.2595	.2600
235	.4900	.2600	.2610	.4875	.2595	.2600

A Plate



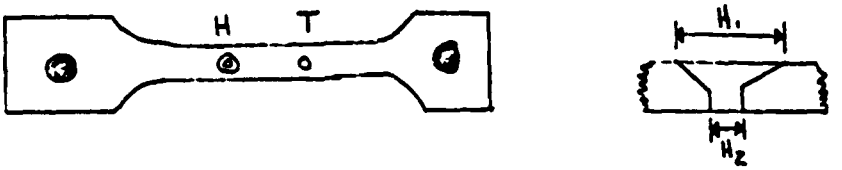


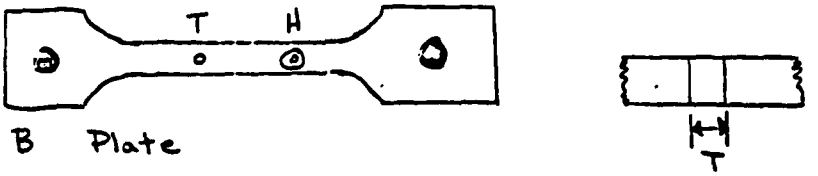
B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A (In.)			PLATE B (In.)		
	H_1	H_2	T	H_1	H_2	T
236	.4890	.2585	.2590	.4845	.2590	.2590
237	.4900	.2600	.2610	.4835	.2600	.2600
238	.4960	.2605	.2600	.4895	.2595	.2610
239	.4855	.2605	.2610	.4885	.2600	.2590
240	.4880	.2595	.2605	.4910	.2605	.2605
241	.4865	.2600	.2595	.4850	.2590	.2585
242	.4900	.2585	.2585	.4965	.2590	.2595
243	.4920	.2575	.2590	.4905	.2600	.2605
244	.4900	.2600	.2575	.4895	.2600	.2600
245	.4860	.2590	.2570	.4895	.2580	.2580
246	.4890	.2585	.2590	.4860	.2585	.2600
247	.4890	.2600	.2595	.4865	.2585	.2585
248	.4865	.2585	.2585	.4905	.2595	.2590
249	.4860	.2605	.2595	.4860	.2605	.2590
250	.4855	.2595	.2590	.4860	.2590	.260

A Plate





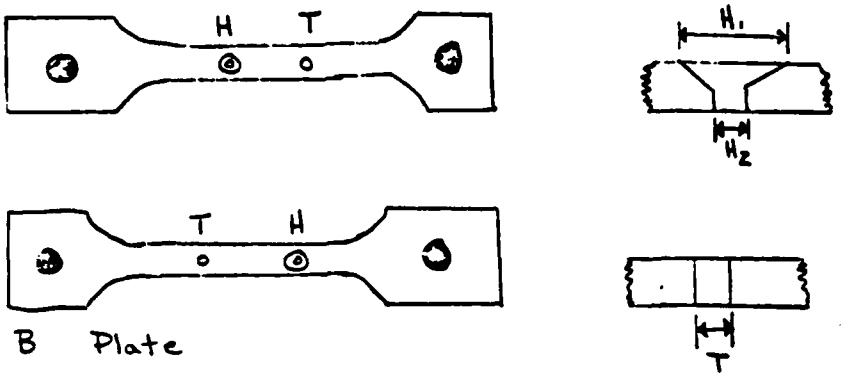
B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A (In.)			PLATE B (In.)		
	H_1	H_2	T	H_1	H_2	T
251						
252						
253	.4890	(.2575) .2605	.2610	.4955	(.2585) .2595	.2600
254	.4910	(.2575) .2585	.2585	.4865	(.2575) .2595	.2590
255	.4840	(.2575) .2605	.2600	.4865	(.2575) .2600	.2590
256	.4970	(.2575) .2600	.2600	.4900	(.2575) .2605	.2605
257	.4945	(.2575) .2605	.2610	.4900	(.2575) .2610	.2605
258	.4900	(.2580) .2600	.2600	.4905	(.2575) .2605	.2595
259	.4920	(.2575) .2595	.2600	.4940	(.2575) .2600	.2600
260	.4860	(.2575) .2600	.2595	.4915	(.2575) .2600	.2600
261	.4915	(.2580) .2595	.2595	.4870	(.2575) .2600	.2600
262	.4845	(.2575) .2620	.2615	.4905	(.2575) .2605	.2600
263 ★	.4890	(.2575) .2600	.2605	.4950	(.2575) .2595	.2600
264	.4878	(.2580) .2600	.2600	.4810	(.2575) .2600	.2600
265	.4875	(.2580) .2600	.2600	.4940	(.2580) .2610	.2605

★ thru hole on A plate slightly counter sunk (.4050 ↔ ↕ .0770 vs. .0985 [Normal Φ])

A Plate

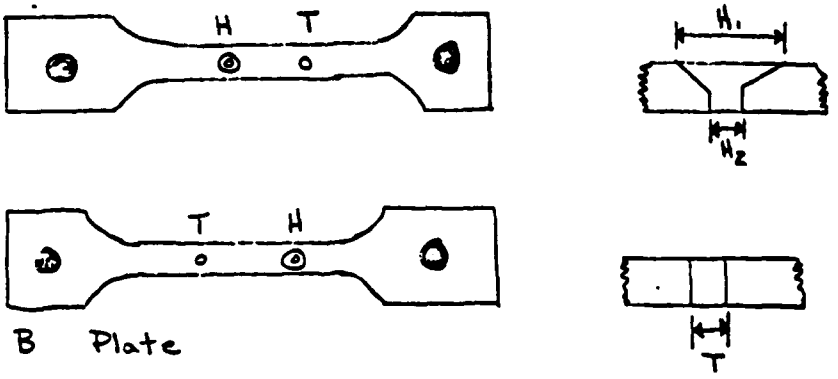


B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A			PLATE B		
	H_1	H_2	T	H_1	H_2	T
266	.4995	(.2590) .2620	.2605	.4915	(.2575) .2610	.2615
267	.4890	(.2515) .2600	.2600	.4900	(.2575) .2600	.2600
268	.4915	(.2575) .2600	.2590	.4900	(.2575) .2595	.2600
269	.3840	(.198) .2010	.2010	.3845	(.198) .2010	.2010
270	.3840	(.198) .2010	.2010	.3825	(.198) .2010	.2010
271	.3805	(.198) .2010	.2010	.3790	(.198) .2010	.2010
272	.3750	(.198) .2010	.2010	.3815	(.198) .2010	.2010
273	.3775	(.198) .2010	.2010	.3810	(.198) .2010	.2010
274	.3760	(.198) .2010	.2010	.3780	(.198) .2010	.2010
275	.3770	(.198) .2010	.2010	.3775	(.198) .2010	.2010
276	.3785	(.198) .2010	.2010	.3760	(.198) .2010	.2010
277	.3735	(.198) .2010	.2010	.3755	(.198) .2010	.2010
278	.3770	(.198) .2010	.2010	.3780	(.198) .2010	.2010
279	.5230	(.2485) .2520	.2520	.5215	(.2490) .2520	.2520
280	.5215	(.2490) .2520	.2515	.5295	(.2490) .2520	.2520

A Plate

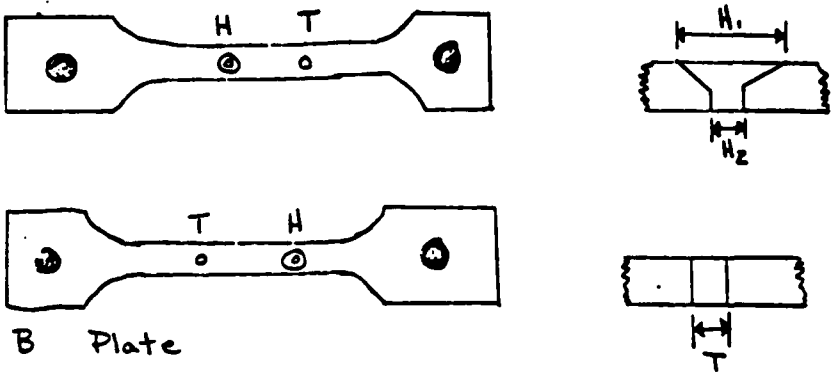


B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A (In.)			PLATE B (In.)		
	H_1	H_2	T	H_1	H_2	T
281	.5055	(.2490) .2520	.2520	.5185	(.2490) .2520	.2520
282	.520	(.2490) .2520	.2520	.5210	(.2490) .2520	.2520
283	.5235	(.2490) .2520	.2520	.5175	(.2490) .2520	.2520
284	.5215	(.2490) .2520	.2520	.5305	(.2490) .2520	.2520
285	.5170	(.2490) .2520	.2520	.5175	(.2490) .2520	.2520
286	.5030	(.2490) .2520	.2520	.5180	(.2490) .2520	.2520
287	.5165	(.2490) .2520	.2520	.5195	(.2490) .2520	.2520
288	.5225	(.2490) .2520	.2520	.5270	(.2490) .2520	.2520
289	.5155	(.2490) .2520	.2520	.5260	(.2490) .2520	.2520
290	.5130	(.2490) .2520	.2520	.5230	(.2490) .2520	.2520
291	.5150	(.2490) .2520	.2520	.5155	(.2490) .2520	.2520
292	.5140	(.2490) .2520	.2520	.5185	(.2490) .2520	.2520
293	.5300	(.2490) .2520	.2520	.5140	(.2490) .2520	.2520
294	.5285	(.2490) .2520	.2520	.9200	(.2490) .2520	.2520
295	.5095	(.2490) .2520	.2520	.5160	(.2490) .2520	.2520

A Plate

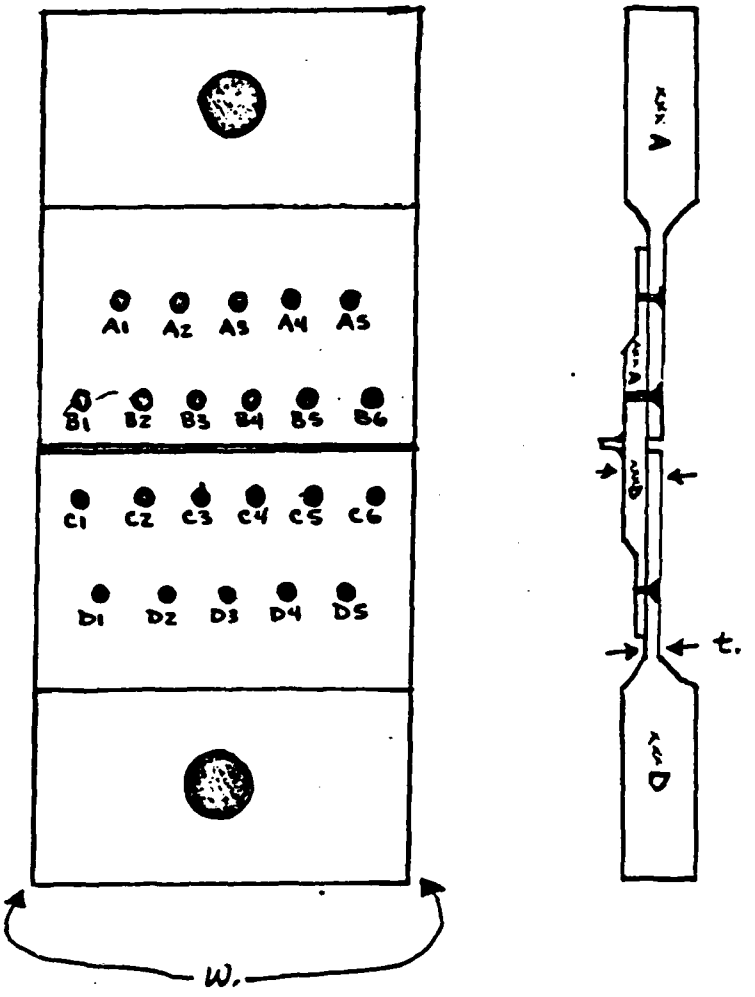


B Plate

H - Counter sink hole T- thru hole

SPECIMEN NO.	PLATE A (In.)			PLATE B (In.)		
	H_1	H_2	T	H_1	H_2	T
311	.3860	(.1900) .1935	.1935	.3855	(.1900) .1935	.1935
312	.3890	(.1900) .1935	.1935	.3820	(.1900) .1935	.1935
313	.3835	(.1900) .1935	.1935	.3825	(.1900) .1935	.1935
314	.3815	(.1900) .1935	.1935	.3830	(.1900) .1935	.1935
315	.3865	(.1900) .1935	.1935	.3865	(.1900) .1935	.1935
316	.3505	(.1900) .1935	.1935	.3815	(.1900) .1935	.1935
317	.3860	(.1900) .1935	.1935	.3790	(.1900) .1935	.1935
318	.3505	(.1900) .1935	.1935	.3815	(.1900) .1935	.1935
319	.5115	(.2570) .2600	.2600	.5105	(.2580) .2600	.2600
320	.5065	(.2575) .2600	.2600	.5090	(.2575) .2600	.2600
321	.5045	(.2575) .2600	.2600	.5095	(.2575) .2600	.2605
322	.4975	(.2575) .2605	.2600	.4995	(.2575) .2595	.2600
323	.5070	(.2575) .2600	.2600	.5005	(.2575) .2605	.2610
324	.5020	(.2575) .2600	.2600	.5045	(.2575) .2600	.2610
325	.5045	(.2575) .2600	.2605	.5065	(.2580) .2600	.2600

COMPLEX SPECIMEN HOLE IDENT.



COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN* 724		SPECIMEN* 725		SPECIMEN* 726		SPECIMEN* 727	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1			.369	.2030	.3695	.2030	.342	.2030
A2			.369	.2030	.367		.362	
A3			.370	.2030	.3635		.363	
A4			.369	.2030	.364		.368	
A5			.3695	.2030	.366		.3715	
B1			.369	.2030	.3615		.3555	
B2			.366	.2030	.370		.3380	
B3	NOT		.364	.2030	.3705		.3760	
B4	MEASURED		.373	.2030	.364		.3585	
B5			.373	.2030	.2905		.370	
B6			.378	.2030	.3565		.348	
B1			.3695	.2030	.3575		.3670	
C2			.3715	.2030	.355		.3715	
C3			.3715	.2030	.3745		.3705	
C4			.3735	.2030	.3655		.3745	
C5			.3715	.2030	.338		.376	
C6			.3745	.2030	.3605		.380	
D1			.370	.2030	.3665		.374	
D2			.3705	.2030	.3755		.3725	
D3			.3695	.2030	.3610		.377	
D4			.3715	.2030	.356		.3715	
D5			.3565	.2030	.350	.2030	.3545	.2030

CS Hole = Countersink Hole R = .1980

BP Hole = Backing Plate Hole

COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN* 728		SPECIMEN* 729		SPECIMEN* 730		SPECIMEN* 731	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1	.362	.2030	.3705	.2030	.363	.2030	.364	.2030
A2	.3655	.2030	.3600		.363		.3595	
A3	.373	.2030	.3600		.369		.372	
A4	.372	.2030	.3630		.370		.3755	
A5	.3735	.2030	.3715		.3675		.373	
B1	.372	.2030	.3675		.364		.373	
B2	.368	.2030	.3705		.3685		.3735	
B3	.3675	.2030	.3665		.3705.		.3715	
B4	.362	.2030	.358		.3690		.369	
B5	.3665	.2030	.3645		.3715		.3685	
B6	.3685	.2030	.3675		.373		.3715	
C1	.3655	.2030	.373		.3695		.373	
C2	.3655	.2030	.373		.3565		.3735	
C3	.3655	.2030	.373		.3715		.366	
C4	.3665	.2030	.3675		.367		.373	
C5	.3690	.2030	.361		.3675		.373	
C6	.3730	.2030	.3695		.3675		.373	
D1	.3665	.2030	.3695		.3705		.3705	
D2	.3715	.2030	.3755		.376		.373	
D3	.365	.2030	.3675		.3715		.373	
D4	.3685	.2030	.3710		.3705		.368	
D5	.3695	.2030	.3700	.2030	.3585	.2030	.365	.2030

CSHole = Countersink Hole R=.1980

BP Hole = Backing Plate Hole

COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN* 732		SPECIMEN* 733		SPECIMEN* 734		SPECIMEN* 735	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1	.370	.2030	.3705	.2030	.340	.2030	.368	.2030
A2	.367	.2030	.3675		.3585		.368	
A3	.3665	.2030	.377		.371		.3715	
A4	.364	.2030	.3685		.3735		.373	
A5	.365	.2030	.375		.3645		.375	
B1	.3775	.2030	.367		.3615		.3675	
B2	.374	.2030	.3655		.363		.360	
B3	.375	.2030	.367		.3555		.378	
B4	.353	.2030	.3675		.360		.3725	
B5	.3675	.2030	.374		.3625		.371	
B6	.3695	.2030	.374		.364		.3565	
B1	.373	.2030	.3675		.3715		.3615	
C2	.378	.2030	.365		.3705		.364	
C3	.3695	.2030	.3645		.373		.359	
C4	.3565	.2030	.373		.373		.3715	
C5	.3595	.2030	.3695		.371		.363	
C6	.3655	.2030	.3715		.3625		.370	
D1	.374	.2030	.3695		.3655		.3705	
D2	.3745	.2030	.368		.3755		.3715	
D3	.3655	.2030	.3635		.3695		.3695	
D4	.363	.2030	.364		.3695		.3695	
D5	.3675	.2030	.366	.2030	.3665	.2030	.3705	.2030

CS Hole = Countersink Hole R = .1980

BP Hole = Backing Plate Hole

COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN* 736		SPECIMEN* 737		SPECIMEN* 738		SPECIMEN* 739	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1	.371	.2030	.351	.2030	.368	.2030	.3655	.2030
A2	.3685	.2030	.367	.3	.3715		.366	
A3	.3695	.2030	.3725		.373		.3695	
A4	.370	.2030	.3745		.371		.372	
A5	.3695	.2030	.377		.3745		.3725	
B1	.371	.2030	.371		.3745		.3735	
B2	.3715	.2030	.3695		.3745		.3745	
B3	.375	.2030	.3705		.375		.373	
B4	.3695	.2030	.3705		.377		.3735	
B5	.3675	.2030	.373		.378		.372	
B6	.368	.2030	.372		.365		.3675	
B1	.3695	.2030	.3715		.3715		.368	
C2	.372	.2030	.3735		.3745		.369	
C3	.373	.2030	.3715		.371		.3715	
C4	.375	.2030	.376		.373		.376	
C5	.3695	.2030	.3725		.373		.3745	
C6	.3695	.2030	.373		.373		.3755	
D1	.3745	.2030	.371		.373		.3705	
D2	.371	.2030	.3715		.377		.368	
D3	.377	.2030	.377		.3725		.373	
D4	.3695	.2030	.373		.373		.375	
D5	.3715	.2030	.365	.2030	.373	.2030	.3645	.2030

CS Hole = Countersink Hole

BP Hole = Bkking Plate Hole

COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN #740		SPECIMEN #741		SPECIMEN #742		SPECIMEN #743	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1	.358	.2030	.3645	.2030	.3695	.2030	.365	.2030
A2	.3675	.2030	.3685		.3695		.373	
A3	.3715	.2030	.369		.3775		.373	
A4	.375	.2030	.3705		.3715		.3695	
A5	.3745	.2030	.3705		.377		.375	
B1	.375	.2030	.371		.3745		.368	
B2	.3715	.2030	.371		.371		.3765	
B3	.373	.2030	.371		.373		.3725	
B4	.373	.2030	.366		.3675		.372	
B5	.3715	.2030	.374		.3655		.3685	
B6	.373	.2030	.369		.370		.3655	
B1	.373	.2030	.370		.3695		.3655	
C2	.3735	.2030	.370		.3715		.375	
C3	.3735	.2030	.3755		.371		.3695	
C4	.3745	.2030	.3755		.3745		.370	
C5	.374	.2030	.375		.378		.371	
C6	.3745	.2030	.376		.376		.3715	
D1	.380	.2030	.3775		.3775		.374	
D2	.3785	.2030	.3765		.374		.370	
D3	.3715	.2030	.3775		.368		.375	
D4	.374	.2030	.371		.3675		.375	
D5	.368	.2030	.3705	.2030	.3555	.2030	.3755	.2030

CS Hole = Countersink Hole · R = .1980

BP Hole = Backing Plate Hole

(.199-.202)

COMPLEX SPECIMEN MEASUREMENT

	SPECIMEN # 744		SPECIMEN # 745		SPECIMEN # 746		SPECIMEN # 747	
HOLE IDENT	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole	CS Hole	BP Hole
A1	.365	.2030	.3665	.2030	.368	.2030	.3685	.2030
A2	.366	.2030	.3705		.368		.3745	
A3	.3805	.2030	.3725		.3685		.3745	
A4	.377	.2030	.375		.3695		.3755	
A5	.3775	.2030	.3725		.3715		.378	
B1	.3695	.2030	.3745		.374		.3725	
B2	.3725	.2030	.377		.3715		.368	
B3	.3795	.2030	3685		.373		.3825	
B4	.377	.2030	.370		.3725		.370	
B5	.373	.2030	.371		.3715		.364	
B6	.373	.2030	.3725		.360		.3665	
C1	.373	.2030	.3685		.3715		.356	
C2	.376	.2030	.3715		.3735		.3695	
C3	.3765	.2030	.369		.373		.3695	
C4	.3775	.2030	.3785		.373		.3695	
C5	.365	.2030	.3705		.373		.370	
C6	.378	.2030	.3715		.374		.3725	
D1	.379	.2030	.3715		.3685		.3795	
D2	.379	.2030	.377		.377		.380	
D3	.3765	.2030	.369		.370		.3775	
D4	.3715	.2030	.370		.3715		.364	
D5	.3675	.2030	.3705	.2030	.3635	.2030	.3565	.2030

CS Hole = Countersink Hole

BP Hole = Backing Plate Hole

APPENDIX E

Photographs of Fracture Surfaces

F-16 400 Hr. Spectrum -- No Load Transfer



AFLR3 (101A)



AFLR3 (101B)



AFLR4 (102A)



AFLR4 (102B)



AFLR4 (103A)



AFLR4 (103B)

F-16 400 Hr. Spectrum -- No Load Transfer



AFLR4 (104A)



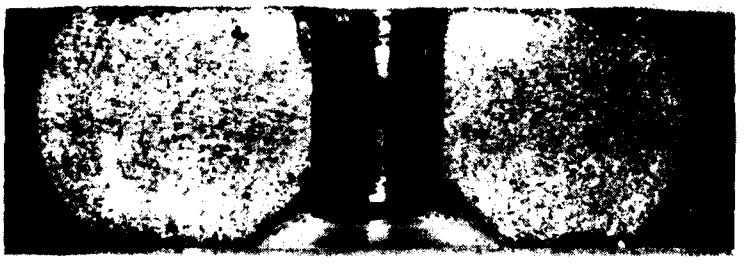
AFLR4 (104B)



AFLR4 (105A)



AFLR4 (105B)



AFLR4 (106A)



AFLR4 (106B)

F-16 400 Hr. Spectrum -- No Load Transfer



AFLR4 (107A)

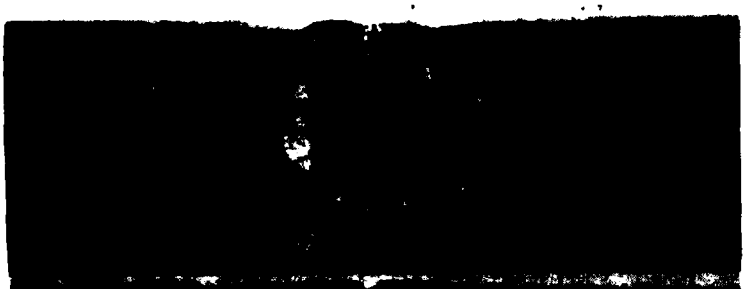
AFLR4 (107B)



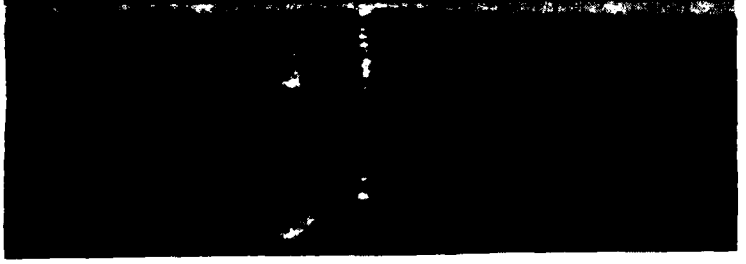
AFLR4 (108A)



AFLR4 (108B)



AFMR4 (109A)



AFMR4 (109B)

F-16 400 Hr. Spectrum -- No Load Transfer



AFMR4 (113A)



AFMR4 (113B)



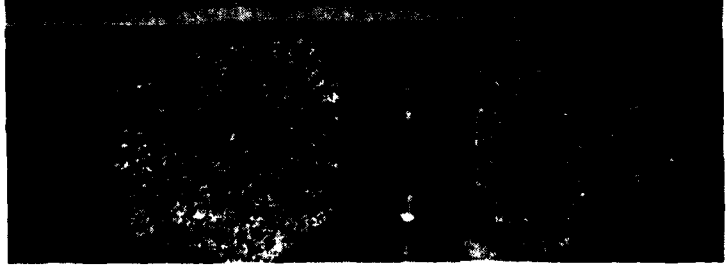
AFMR4 (114A)



AFMR4 (114B)



AFMR4 (115A)



AFMR4 (115B)

F-16 400 Hr. Spectrum -- No Load Transfer



AFMR4 (116A)

AFMR4 (116B)



AFMR4 (117A)

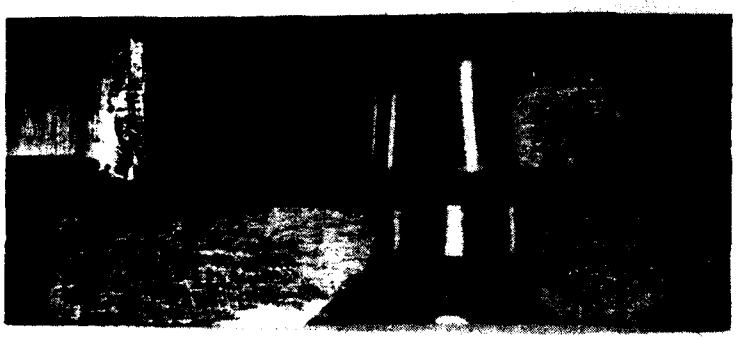
AFMR4 (117B)

F-16 400 Hr. Spectrum -- 15% Load Transfer



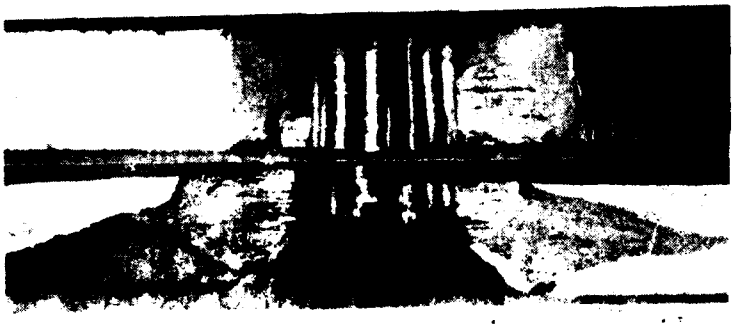
AFXLR4 (120TA)

AFXLR4 (120HB)



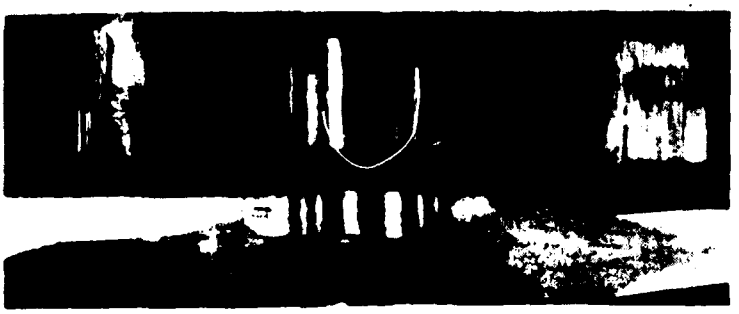
AFXLR4 (120TB)

AFXLR4 (120HA)



AFXLR4 (121TA)

AFXLR4 (121HB)



AFXLR4 (121TB)

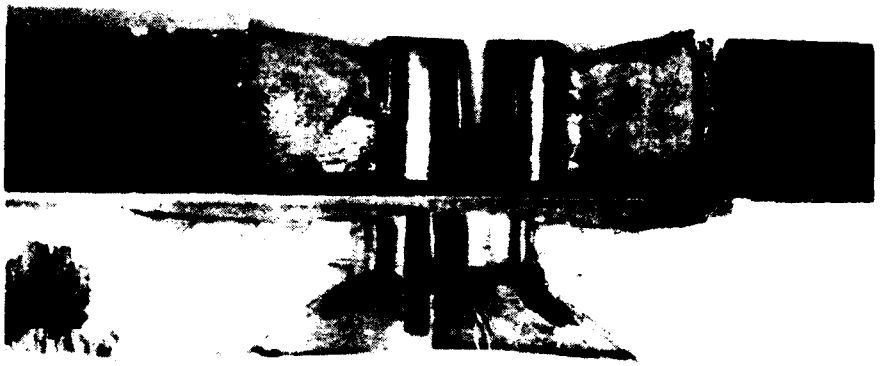
AFXLR4 (121HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR4 (122TA)

AFXLR4 (122HB)



AFXLR4 (122TB)

AFXLR4 (122HA)



AFXLR4 (123TA)

AFXLR4 (123HB)



AFXLR4 (123TB)

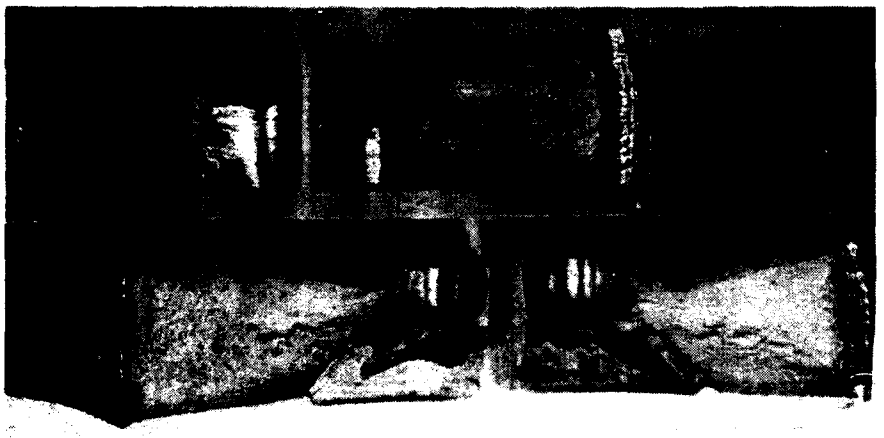
AFXLR4 (123HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR4 (124TA)

AFXLR4 (124HB)



AFXLR4 (124TB)

AFXLR4 (124HA)



AFXLR3 (125TA)

AFXLR3 (125HB)



AFXLR3 (125TB)

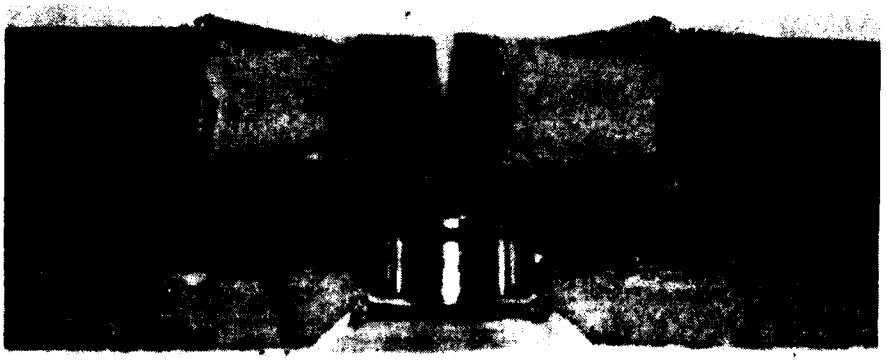
AFXLR3 (125HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR3 (127TA)

AFXLR3 (127HB)



AFXLR3 (127TB)

AFXLR3 (127HA)



AFXLR3 (128TA)

AFXLR3 (128HB)



AFXLR3 (128TB)

AFXLR3 (128HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR3 (129TA)

AFXLR3 (129HB)



AFXLR3 (129TB)

AFXLR3 (129HA)



AFXLR3 (131TA)

AFXLR3 (131HB)



AFXLR3 (131TB)

AFXLR3 (131HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR3 (132TA)

AFXLR3 (132HB)



AFXLR3 (132TB)

AFXLR3 (132HA)



AFXLR3 (133TA)

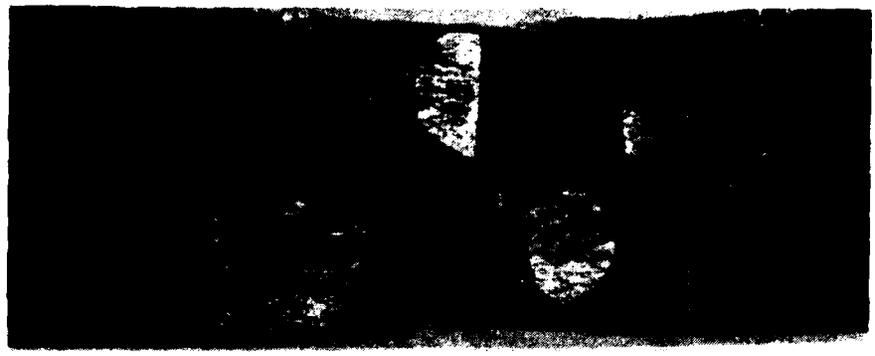
AFXLR3 (133HB)



AFXLR3 (133TB)

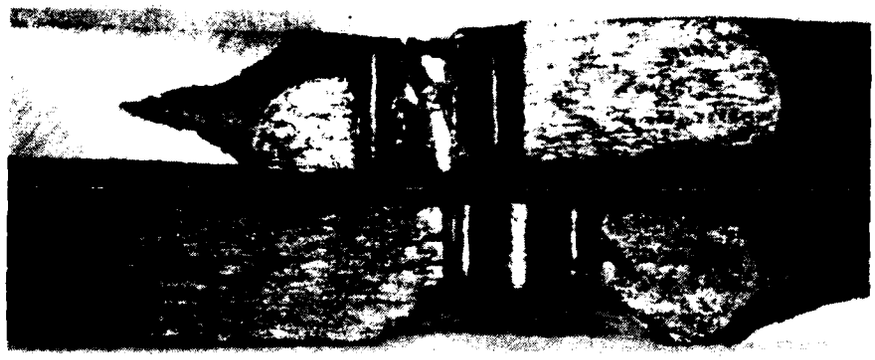
AFXLR3 (133HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



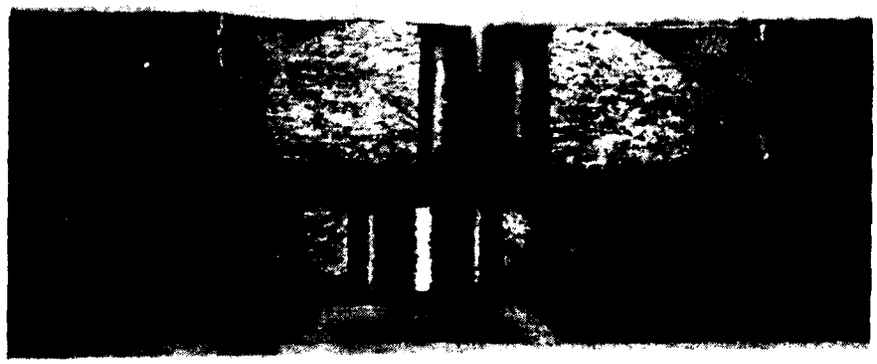
AFXLR3 (134TA)

AFXLR3 (134HB)



AFXLR3 (134TB)

AFXLR3 (134HA)



AFXMR3 (135TA)

AFXMR3 (135HB)



AFXMR3 (135TB)

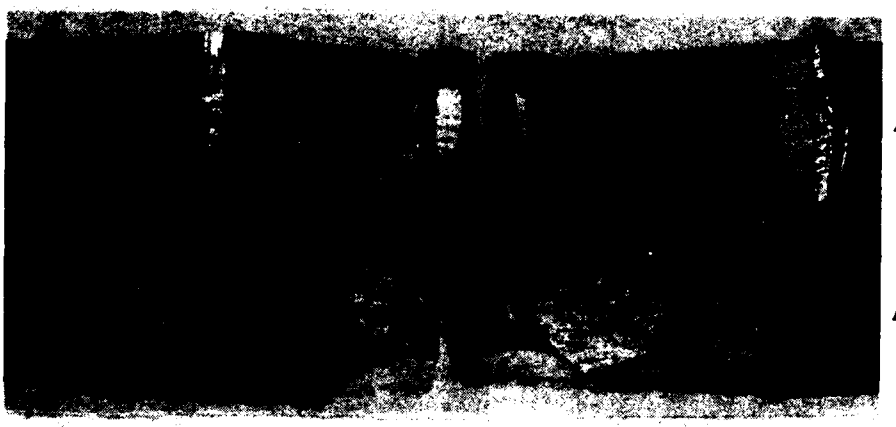
AFXMR3 (135HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXLR3 (136TA

AFXLR3 (136HB)



AFXLR3 (136TB)

AFXLR3 (136HA)



AFXLR3 (137TA)

AFXLR3 (137HB)



AFXLR3 (137TB)

AFXLR3 (137HA)

F-16 400 Hr. Spectrum -- 15% Load Transfer



AFXMR3 (138TA)

AFXMR3 (138HB)



AFXMR3 (138TB)

AFXMR3 (138HA)

B-1 Bomber Spectrum -- No Load Transfer



ABHR4 (198A)



ABHR4 (198B)

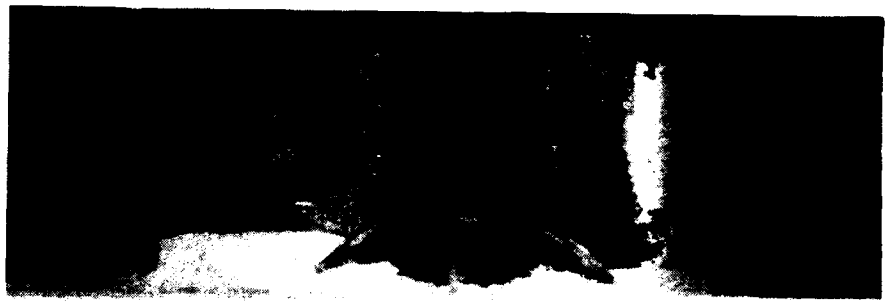


ABHR4 (199A)



ABHR4 (199B)

B-1 Bomber Spectrum -- No Load Transfer

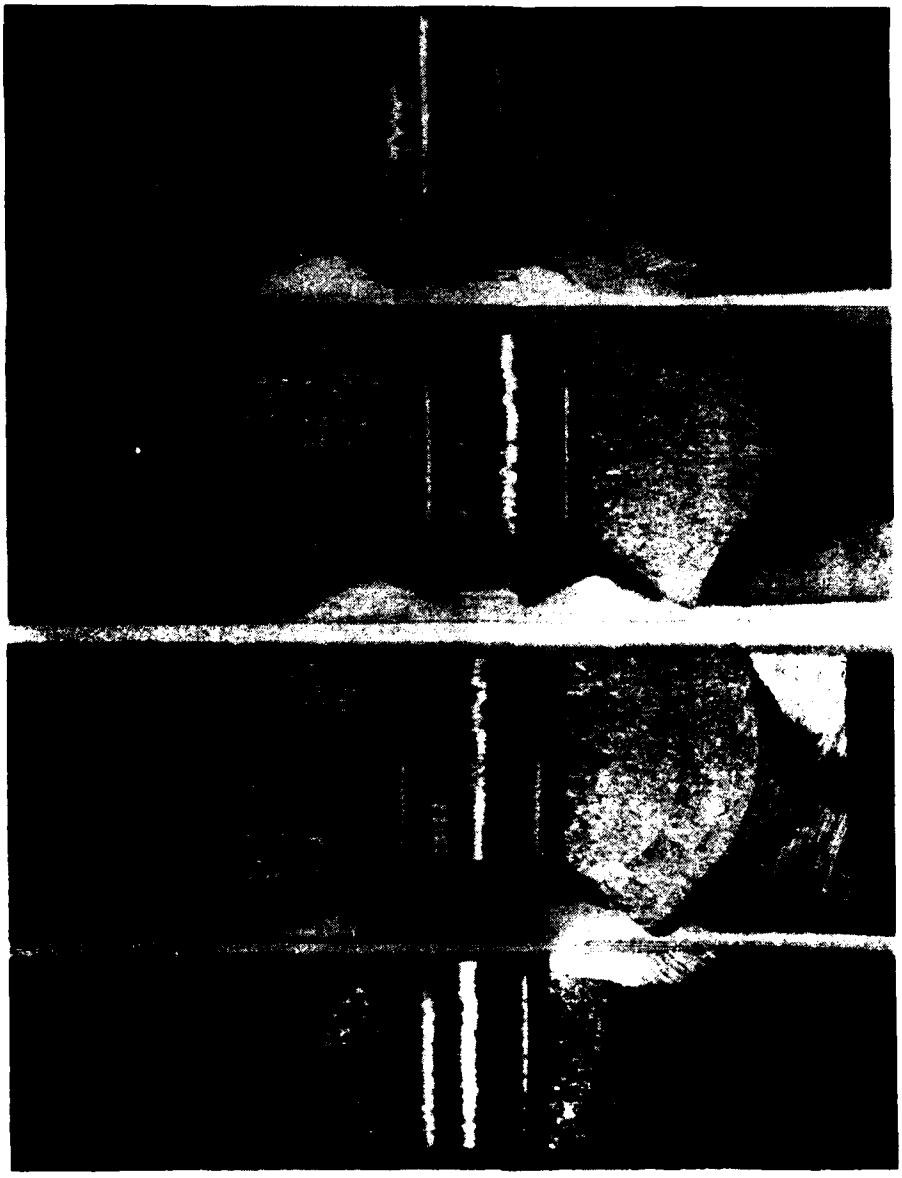


ABHR4 (200A)



ABHR4 (200B)

B-1 Bomber Spectrum -- No Load Transfer



ABHR4 (201A)

ABHR4 (201B)

ABHR4 (202A)

ABHR4 (202B)

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