

AD-A065 359

TECHNICAL
LIBRARY

AD

AD-E400 265

TECHNICAL REPORT ARPAD-TR-78003

PROVE-OUT RAM ASSESSMENT REPORT FOR THE
155 MM M483 LAP LINE AT LONE STAR ARMY
AMMUNITION PLANT

J. CRAIG ALLEN
JOHN G. MARDO

NOVEMBER 1978



US ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND
PRODUCT ASSURANCE DIRECTORATE
DOVER, NEW JERSEY

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation.

Destroy this report when no longer needed. Do not return it to the originator.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Technical Report ARPAD-TR-78003	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Prove-Out RAM Assessment Report for the 155 mm M483 LAP Line at Lone Star Army Ammunition Plant		5. TYPE OF REPORT & PERIOD COVERED RAM Assessment Nov 77 - Jan 78
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) J. Craig Allen John G. Mardo		8. CONTRACT OR GRANT NUMBER(s)
		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 578 5508
9. PERFORMING ORGANIZATION NAME AND ADDRESS Commander U.S. Army Armament Research & Development Command, ATTN: DRDAR-QAR, Dover, NJ		11. CONTROLLING OFFICE NAME AND ADDRESS Commander U.S. Army Armament Research & Development Command, ATTN: DRDAR-TSS, Dover, NJ
14. MONITORING AGENCY NAME & ADDRESS (If different from Controlling Office)		12. REPORT DATE November 1978
		13. NUMBER OF PAGES 324
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Prove-out Demonstration test RAM assessment Fuze assembly machine Body loading system MTTR MTBF Outlier		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) During November 1977 Lone Star AAP developed a Demonstration Test Plan (DTP) to govern the Prove-Out test for Project 5745508, 155 mm M483 Automated Assembly and Pack Out system at LSAAP. Prove-Out of the LAP line was initiated in November 1977 and completed in January 1978. The results of this test showed that the equipment satisfied the applicable test requirements and is capable of meeting an MOB rate of 42,800 projectiles per month on a 500 hour/month basis. This report provides		

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

20. Abstract (continued)

the details of the reliability, availability, maintainability (RAM), and production data analyses upon which this conclusion is based. The computerized RAM analysis for all the equipment for which data were collected during the Prove-Out test is included in this report.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

ACKNOWLEDGMENTS

The authors wish to acknowledge the significant contribution of the following individuals toward the completion of this report. Mr. Sid Markowitz for his major role in the planning and carrying out of the Prove-Out test; Mr. Edward Loniewski for the invaluable advice and assistance in developing computer programs; Mr. Madison Bagley, COR Staff, LSAAP, and Mr. Bae Hahn of Day & Zimmerman (LSAAP) for their coordination and supervision of data collection; Mrs. Georgette Miller for the arduous task of keypunching the large volume of data; and Mrs. Dorothy Landiak and Miss Cecilia Rose for the expeditious typing of the final manuscript. In addition, the contributions of Mr. B. Menke, Mr. J. Denny and Mr. S. Karlin are also appreciated.

TABLE OF CONTENTS

	<u>Page No.</u>
Introduction	1
Test Objective	1
Equipment Test Requirements	2
Results of Prove-Out Test	3
Definitions	6
Conclusions and Recommendations	7
Appendix A Detailed Discussion of Results and System Description	10
I. Introduction	10
II. Discussion of Results	10
A. General	10
B. Data Analysis	11
1. Adapter/Grenade Hardness Verification	11
2. Lead Cup Insertion	17
3. Grenade Body Loading Systems	26
4. Fuze Assembly Systems	53
5. Final Assembly/Pack-Out System	85
III. System Description	90
A. Description of Demonstration Test	90
B. Narrative of System Operation	92
C. Simplified Block Diagram	98
Appendix B Computer RAM Analysis for Hardness, Lead Cup Insertion, Body Loading, Fuze Assembly, and Final Assembly/Pack-Out	101
Distribution List	317

LIST OF TABLES AND FIGURES

<u>TABLE NO.</u>	<u>TITLE</u>	<u>PAGE</u>
I-1	SYSTEM RAM SUMMARY -----	3
I-2	PRODUCTION SUMMARY DURING PROVE-OUT -----	5
II-1	FAILURE CODES FOR HARDNESS -----	11
II-2	HARDNESS - OUTLIER CRITERIA -----	12
II-3	HARDNESS - OUTLYING DATA -----	12
II-4	HARDNESS - RAM SUMMARY -----	14
II-5	HARDNESS - PRODUCTION SUMMARY -----	14
II-6	DOWNTIME ANALYSIS OF HARDNESS EQUIPMENT -----	16
II-7	DOWNTIME SUMMARY OF HARDNESS EQUIPMENT -----	16
II-8	FAILURE CODES FOR LEAD CUP MACHINES -----	17
II-9	LEAD CUP - OUTLIER CRITERIA -----	18
II-10	LEAD CUP - OUTLYING DATA -----	18
II-11A	LEAD CUP - RAM SUMMARY -----	20
II-11B	LEAD CUP - PRODUCTION SUMMARY -----	20
II-12	LEAD CUP - DAILY RAM RESULTS -----	21
II-13	LEAD CUP - DAILY PRODUCTION -----	21
II-14	LEAD CUP - RAM PROBLEM AREAS -----	23
II-15	DOWNTIME ANALYSIS OF LEAD CUP EQUIPMENT -----	24
II-16	DOWNTIME SUMMARY OF LEAD CUP EQUIPMENT -----	25
II-17	FAILURE CODES FOR BODY LOADING -----	27-29
II-18	BODY LOADING - OUTLIER CRITERIA -----	30-31
II-19	BODY LOADING - OUTLYING DATA -----	32
II-20	BODY LOADING - RAM SUMMARY -----	34
II-21	BODY LOADING - DAILY RAM RESULTS -----	37
II-22	BODY LOADING - DAILY PRODUCTION -----	38
II-23	BODY LOADING - NET RATES -----	40
II-24A-E	DOWNTIME ANALYSIS OF EACH BODY LOADER -----	42-46
II-25	DOWNTIME SUMMARY OF BODY LOADING SYSTEM -----	47
II-26	BODY LOADING - RAM PROBLEM AREAS -----	41
II-27	BODY LOADING - SUBSYSTEM RAM RESULTS -----	49
II-28	BODY LOADING - SUBSYSTEM SUMMARY -----	50
II-29	FAILURE CODES FOR FUZE ASSEMBLY -----	54
II-30	FUZE ASSEMBLY - OUTLIER CRITERIA -----	55
II-31	FUZE ASSEMBLY - OUTLYING DATA -----	56-57
II-32	ADDITIONAL OUTLYING DATA -----	58
II-33	FUZE ASSEMBLY - SUMMARY OF RAM DATA -----	60
II-34	FUZE ASSEMBLY - DAILY RAM RESULTS -----	61
II-35	FUZE ASSEMBLY - DAILY PRODUCTION -----	65
II-35A	FUZE ASSEMBLY - AVERAGE DAILY OUTPUT -----	59
II-36	FUZE ASSEMBLY - DAILY REJECT RATE -----	66
II-37	FUZE ASSEMBLY - NET RATE -----	66
II-38A-J	DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE -----	68-77
II-39	DOWNTIME ANALYSIS OF CONNALLY ASSY MACHINE -----	78

LIST OF TABLES AND FIGURES - CONTINUED

<u>TABLE NO.</u>		<u>PAGE</u>
II-40	FUZE ASSEMBLY - DOWNTIME SUMMARY-----	79
II-41	FUZE ASSEMBLY - RAM PROBLEM AREAS-----	80
II-42	FUZE ASSEMBLY - SUBSYSTEM AVAILABILITY-----	82
II-43	FUZE ASSEMBLY - SUBSYSTEM SUMMARY-----	81
II-44	FINAL ASSY/PACK-OUT SUMMARY - EAST LINE-----	87
II-45	FINAL ASSY/PACK-OUT SUMMARY - WEST LINE-----	88
II-46	SUMMARY OF PACK-OUT PRODUCTION RATES-----	89

<u>FIGURE NO.</u>		<u>PAGE</u>
II-A	LEAD CUP - GRAPH OF DAILY AVAILABILITIES-----	22
II-B	BODY LOADING - HISTOGRAM OF TIMES-TO-FAILURE-----	35
II-C	BODY LOADING - HISTOGRAM OF REPAIR TIMES-----	36
II-D	BODY LOADING - GRAPH OF DAILY AVAILABILITIES-----	39
II-E	BODY LOADING - GRAPH OF SUBSYSTEM AVAILABILITIES-----	51
II-F	BODY LOADING - GRAPH OF SUBSYSTEM AVAILABILITIES-----	52
II-G	FUZE ASSEMBLY - HISTOGRAM OF TIMES-TO-FAILURE-----	62
II-H	FUZE ASSEMBLY - HISTOGRAM OF REPAIR TIMES-----	63
II-I	FUZE ASSEMBLY - GRAPH OF DAILY AVAILABILITIES-----	64
II-J	FUZE FEED - GRAPH OF SUBSYSTEM AVAILABILITIES-----	83
II-K	FUZE-TAPE - GRAPH OF SUBSYSTEM AVAILABILITIES-----	84
III-A	RAM DATA FORM AND DATA CARD-----	91
III-B	BLOCK DIAGRAM OF ASSEMBLY LINE-----	99

INTRODUCTION

This report was prepared to provide an independent assessment of the system performance and capability during the production period, 28 November 1977 to 18 January 1978, at the request of the Office of the Project Manager for Production Base Modernization (PBM). The intent of this report is to document equipment performance in terms of RAM characteristics during the prove-out test. It is apparent from the RAM data that a significant improvement in equipment performance has occurred since an initial cursory assessment of the line during early stages of production. This performance growth is primarily attributed to equipment design modifications and production experience.

In addition, this report identifies areas of equipment deficiency and recommends improvements to increase efficiency which should be implemented prior to future procurements of similar equipment. It also presents quantitative estimates of equipment RAM characteristics resulting from a computerized RAM data analysis. For those who must make a decision as to acceptance/rejection/redesign or duplication of this line, this report serves as an additional source of information.

Appendixes A and B provide the information and data on which the conclusions and recommendations are based.

TEST OBJECTIVE

The objective of the prove-out test was to demonstrate that the equipment system is capable of:

1. Producing an acceptable product, the M483 projectile, in accordance with the applicable military specification, MIL-P-48749.
2. Producing the product at the mobilization (MOB) rate, 42,800 rounds per month on a 500-hour basis.

For the automated line to satisfactorily pass the test, it had to demonstrate that it could produce at the sustained rate of 42,800 rounds/mo. On a per shift basis this is equivalent to:

$$\frac{42,800 \text{ round/month}}{\frac{500 \text{ hr/month}}{8 \text{ hr/shift}}} = 685 \text{ rounds/shift}$$

EQUIPMENT TEST REQUIREMENTS

To satisfactorily pass the test, each type of equipment had to demonstrate that it could produce an acceptable product at its specified design rate during the scheduled production time of 400 minutes per day for 5 days. The design rates for the various types of equipment are:

Adapter hardness verification	-	90 parts/min
Grenade hardness verification	-	90 parts/min
Lead cup insertion	-	90 parts/min
Grenade body loader system	-	90 parts/min
Fuze assembly system	-	30 parts/min
Final assembly/pack-out	-	1.8 parts/min

The prove-out test of the automated M483 LAP line at LSAAP considered the following number of each type of equipment:

<u>Type</u>	<u>Number of Machines</u>
Adapter hardness verification	1
Grenade hardness verification	5
Lead cup insertion	5
Grenade body loader system	5
Fuze assembly system	10
Final assembly/pack-out	Two parallel lines

In order to meet the MOB rate requirement for the production line, the following minimum net shift rates for each system had to be observed during the test:

<u>Type</u>	<u>Minimum Net Rate</u>
Adapter hardness verification	5480 adapters/shift
Grenade hardness verification	60280 grenades/shift
Lead cup insertion	60280 grenades/shift
Grenade body loader system	60280 grenades/shift
Fuze assembly system	60280 grenades/shift
Final assembly/pack-out	685 projectiles/shift

RESULTS OF PROVE-OUT TEST

Ram Summary

Overall estimates of RAM characteristics, for each production area based on the prove-out data, are provided in Table I-1.

Table I-1. System RAM Summary.

	<u>No.</u> <u>failures</u>	<u>MTTR</u>	<u>MTBF</u>	<u>Availability</u>
Hardness verification	114	1.37	81.1	0.983
Adapter	19	1.18	98.8	0.988
Grenade	95	1.41	77.5	0.982
Lead cup insertion	335	1.59	22.0	0.933
Body loading	934	2.02	6.2	0.754
Fuze assembly	4055	0.92	3.46	0.79
Final assy/pack-out				
East line	182	2.60	258.6	0.774
West line	105	2.40	461.6	0.879

Production Summary

Daily production of assembled grenades and packed out projectiles during the prove-out test is summarized in table I-2. These results compare very favorably to the MOB requirements of 60280 grenades/shift and 685 projectiles/shift.

Expected Production Capability

Based upon the results of the prove-out test, it is anticipated that LSAAP could produce in excess of the MOB rate of 42,800 projectiles per month on a 3/8/5 basis using all equipment and a scheduled uptime of 400 minutes per shift. The expected production quantities for loaded grenades, assembled grenades, and loaded projectiles can be calculated using the following formulas:

Grenade Loading, Lead Cup Insertion, and Fuze Assembly

$$\text{Prod Qty} = \frac{(\text{observed rate}) (\text{avail}) (\text{sched uptime}) (\text{no. machines})}{1 + \text{reject rate}}$$

Projectile Loading/Pack-Out

$$\text{Prod Qty} = \text{Net rate} \times \text{sched uptime}$$

Application of these formulas results in the following expected production quantities:

Lead Cup Insertion

$$\text{Prod Qty} = \frac{(78.5) (.933) (6) (400)}{1.0004} = 175,777 \frac{\text{grenades}}{\text{shift}}$$

Grenade Loading

$$\text{Prod Qty} = \frac{(96.6) (0.755) (6) (400)}{1.0079} = 173,667 \frac{\text{grenades}}{\text{shift}}$$

Grenade Assembly

$$\text{Prod Qty} = \frac{(27.3) (0.790) (18) (400)}{1.0378} = 149,626 \frac{\text{grenades}}{\text{shift}}$$

Projectile Loading/Pack-Out

$$\text{Prod Qty} = 2.67 \times 400 = 1068 \frac{\text{projectiles}}{\text{shift}} \quad (\text{for both lines})$$

In terms of the MOB rates, 42,800 projectiles per month is equivalent to:

$$\frac{42,800 \text{ proj/mon}}{62.5 \text{ shift/mon}} = 685 \text{ proj/shift}$$

$$\text{AND net rate} = \frac{685 \text{ proj/shift}}{400 \text{ min/shift}} = 1.71 \text{ proj/min}$$

The net rate demonstrated by LSAAP during the test was 2.67 projectiles per minute. This figure represents a combination of both the east and west LAP lines. Assuming that LSAAP would utilize both lines during mobilization, the projected production would exceed the MOB rate requirement of 42,800 projectiles per month.

TABLE I-2 PRODUCTION SUMMARY DURING PROVE-OUT
(11/28/77 THRU 1/19/78)

WEEK	ASSEMBLED GRENADES						PROJECTILES PACKED-OUT											
	DAILY RESULTS						DAILY RESULTS						DAILY RESULTS					
	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE	EAST SIDE	WEST SIDE		
11/28-12/2	54776	59714	69148	74639	83224	460	440	462	479	470	440	468	600	476	632			
12/5-12/9	75019	65033	62925	67758	55824	550	650	480	605	453	611	496	617	457	594			
12/12-12/16	71289	75414	84642	81503	78602	388	464	340	363	511	648	530	579	487	623			
12/19-12/22	70413	69225	80216	66379	-	558	562	550	582	557	549	506	548	-	-			
12/27-12/30	-	57701	69666	68227	69607	-	-	416	450	513	574	658	647	633	704			
1/3-1/6	-	77076	81824	91835	68621	-	-	490	645	532	573	426	616	477	490			
1/9-1/13*	60807	66778	58551	-	32562	444	566	494	600	447	493	-	-	-	-			
1/16-1/18	57025	75888	54634	-	-	475	470	525	564	463	420	-	-	-	-			

*Snow Storm - 11 & 12 Jan 78 - Early Production Shutdown on 11 Jan 78 - Plant Closed on 12 Jan, Limited Production on 13 Jan 78

If in addition the M509 MOB rate of 22,000 projectiles/month is taken into consideration, there is an additional grenade production requirement of 68,640 grenades/shift. When added to the M483 grenade production requirement of 60,280 grenades/shift, a total requirement of 128,920 grenades/shift results. The expected grenade production quantities computed above indicate that these requirements are easily exceeded.

DEFINITIONS

The following definitions and assumptions were used in the data analysis of this system:

Equipment Stop Codes

- Code 0 - Start of Shift
- Code 1 - End of Shift
- Code 2 - Break/Lunch
- Code 3 - Unscheduled Stop (Failure)
- Code 4 - End of Test
- Code 5 - Preventive Maintenance
- Code 6 - Administrative Downtime

Outliers

- Code 7 - Outlying Data

One of these codes appears in column 15 on each computer data card required for the computer analysis. They are presented here because they provide a simple way of defining the terms used in this report.

Scheduled Uptime - Total Shift Time - Σ (Code 2 + Code 6 + Code 7)

Actual Uptime = Scheduled Uptime - Σ (Code 3 + Code 5)

Availability = Actual Uptime/Scheduled Uptime

MTBF = Mean-Time-Between-Failures

MTTR = Mean-Time-To-Repair (Mean Downtime)

Observed Rate = Quantity Produced/Actual Uptime

Net Rate = (Quantity Produced - Rejects)/Scheduled Uptime

Variations noted in the scheduled uptimes are attributed to the system operating into or during breaks and lunch periods, early or late start-ups and maintenance running into break/lunch periods.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Based upon the prove-out test results, LSAAP demonstrated that the 155 mm M483 LAP line is capable of meeting the mobilization rate if required to produce on a 3/8/5 shift schedule. These results indicate a substantial improvement in RAM and production performance over the early stages of production, approximately one year ago, at LSAAP.

2. The fuze assembly machines will show a significant increase in availability and production output if the fuze feed and placement problem is corrected. It will also require less repetitive maintenance as this problem was responsible for 40% of the failures and represented 43% of the repair time.

3. The unwinding of fuze ribbons is a serious problem. Although it is not directly associated with a RAM problem, it does require considerable manpower to rewind these ribbons and, therefore, reduces the overall efficiency of the fuze assembly machine operation.

4. Another problem observed during the prove-out test was the excessive reject rate encountered with the fuze assembly machine operation. On two different days one machine exhibited reject rates of 8 and 15%. Since a different machine exhibited a reject rate less than 2% on three consecutive days, it is logical to assume that this problem can be corrected. Resolution of this problem would further increase the overall efficiency and production capability while reducing unit production costs.

5. The hardness verification equipment performed as expected and demonstrated an availability of 98%.

6. The body-loading system experienced outfeed nest jam problems with the ultrasonic cleaner, hung pallets in the powder feed system, in-feed body assembly jams and upper cam jams in the pellet press, and cone jams in the cone swage area. These problems appear to have simple solutions since they involve nothing more than material handling equipment. Improvements in these areas would result in a significant increase in the system availability and production output.

7. The lead cup insertion equipment exhibited a lead cup feed problem responsible for 55% of the downtime. Resolution of this problem would result in a significant improvement in overall efficiency and production capability of this equipment.

8. The final assembly/pack-out equipment experienced a recurring problem during the test; the transfer systems had a total of 36 stoppages, totaling 121 minutes, because no pallets were available. Addition of more pallets to the transfer systems would eliminate this problem, increasing the system availability approximately 2 to 4% which, in turn, would increase the combined net production rate from 2.67 projectiles/minute to 2.75 projectiles/minute.

9. Since the final assembly/pack-out system is serially arranged, major problems could occur if a one-of-a-kind piece of equipment (e.g., torque test machine) experienced significant downtime on any given day. The performance of this line could be greatly improved by using parallel grenade stacking stations and providing for additional equipment which would be in parallel with the present equipment at the base plug torque station, the zone weigh station, and the leak test station.

Recommendations

1. Based upon results of the prove-out test, it is recommended that the line be accepted and transferred to ARRCOM.

2. Since the fuze feed and placement is a serious problem, improvement or redesign should be considered and implemented prior to procurement of similar equipment for follow-on projects.

3. The deficiencies encountered with the body-loading equipment should also be corrected prior to procurement of similar equipment for follow-on projects.

4. While not a RAM problem, the unwinding of fuze ribbons does affect the overall efficiency and should be corrected. The following factors have an influence upon the ribbon staying wound:

- a. Width of heat seal
- b. Rigidity of both the ribbon and tape stiffener
- c. Adjustment and speed of ribbon winders

5. The problem of excessive reject rates experienced on the fuze assembly should be studied closely and corrected since it will reduce production costs and improve efficiency.

6. Since the lead cup feed problem is a serious problem with the lead cup insertion equipment, improvement or possible redesign or modification should be considered and implemented prior to procurement of similar equipment for follow-on projects.

7. The problem of irregularities of the lead cup insertion hole in the grenade bodies should be investigated. If it is a serious problem, additional preparation of the grenade body at the load plant may be required to eliminate the excessive administrative downtime caused by lot-to-lot variations of the grenade bodies.

8. The efficiency of the pack-out could be improved if parallel grenade stackers were used in place of the present series arrangement, and additional pallets were added to the transfer systems. These features should be incorporated into similar follow-on LAP projects.

9. Since data collection is a tedious process and a great deal of effort was spent putting the collected data into proper format, future data should be collected and recorded in accordance with the format required for computerized RAM analysis (fig. III-A).

10. Results of this prove-out in terms of equipment performance should be used to generate RAM requirements and acceptance criteria for equipment to be procured for follow-on projects and also to serve as a basis for sizing similar facilities.

11. A RAM data base for equipment performance is currently being established and data from this prove-out will be included. Additional data on this line should be gathered periodically to expand the data base for the equipment making up this production line. A three-day collection project should be planned by the Project Manager, PBM&E to be implemented every 6 months for RAM-growth tracking purposes.

APPENDIX A. DETAILED DISCUSSION OF RESULTS AND SYSTEM DESCRIPTION

I. INTRODUCTION

The following information provides the details of the RAM of the 155 mm M483A1 Automated Assembly and Pack-Out System upon which the conclusions and recommendations are based.

II. DISCUSSION OF RESULTS

A. GENERAL

In order to facilitate analysis of RAM data collected during Prove-Out, the M483 LAP line at Lone Star AAP was separated into five specific systems:

1. Adapter/Grenade Hardness Verification
2. Lead Cup Insertion
3. Grenade Body Loading
4. Fuze Assembly
5. Final Assembly/Pack-Out

For each of these systems, with the exception of Final Assembly/Pack-Out, sets of failure codes were developed for uniformity in failure identification and streamlining the RAM analysis. In addition to being necessary for performing an accurate RAM analysis, the failure code assignment was extremely useful in conducting the downtime and subsystem failure analyses aimed at pinpointing RAM problem areas.

In a preliminary review of the data it was discovered that certain failures which occurred exhibited repair times which were unusually long in comparison to repair times for other failures of the same code encountered for each specific system type. It was decided that a formal and consistent procedure would be used to exclude these outlying observations from further analysis. All applicable data was grouped according to failure code for each system. A data base consisting of RAM data recently gathered on similar equipment, in addition to the LSAAP Prove-Out data, was used to compute a reasonable estimate of mean-time-to-repair (MTTR) and determine a frequency of failure for each failure code. A critical value based upon failure frequency was calculated for each failure code. The critical value for a particular failure code was based on the desire to remove observed times-to-repair which, under the assumed exponential repair distribution with mean equal to the estimated MTTE, had only a small probability of occurring. If an individual failure resulted in a time-to-repair greater than the critical value for its particular failure code, this failure

was removed from the data as a statistical outlier. These outlying observations were then eliminated from further consideration in analyzing the data. This process resulted in an analysis which more accurately measured equipment RAM performance by removing anomalies which are very likely operator/maintenance personnel dependent.

In the case of the Grenade Body Loading and Fuze Assembly systems, differences between machines of a given type in terms of availability and production capability were examined via statistical test. The rationale and results of these tests are briefly discussed in the sections describing the RAM data analysis for each system provided below.

B. DATA ANALYSIS

1. ADAPTER/GRENADE HARDNESS VERIFICATION

a. General

This section summarizes the adapter/grenade body hardness verification equipment performance during the Prove-Out test. It includes combined overall adapter/hardness verification system RAM characteristics and production performance; and a detailed downtime analysis to pinpoint frequent causes of failure. In order to facilitate the required analysis, a list of expected failure modes with associated codes was developed.

b. Failure Codes and Outlier Criteria

Table II-1 contains a list of the failure codes with their respective definitions. Table II-2 provides, for each failure code, its data base frequency of occurrence, its data base average repair time, and its critical value for determination of outliers.

TABLE II-1 FAILURE CODES - HARDNESS VERIFICATION

FAILURE CODE	FAILURE MODE	DEFINITION
30	Miscellaneous problem	
31	Conveyor jam	Part jam occurs on conveyor
32	Body jam	Part jams in worm gear
33	Body overturned	Parts falls on conveyor and causes jam
34	Body backup	Part jam occurs after test machine
35	Calibration drift	Good parts are rejected; machine requires recalibration
36	Tray up jam	Starwheel jams and causes machine to shut off
37	Traying	Electrical problem causes machine to shut off

TABLE II-2 HARDNESS VERIFICATION OUTLIER CRITERIA

CODE	FREQUENCY	MTR	CRITICAL VALUE
30	3	5.3667	16.1000
31	84	1.3450	6.7252
32	65	0.8910	4.4552
33	17	0.7091	3.5453
34	1	0.2670	0.8010
35	6	4.8167	14.4500
36	2	0.3085	0.9255
37	2	14.9750	44.9250

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 116 stoppages which were considered equipment failures, only 2 repair times were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-3.

TABLE II-3 OUTLYING DATA FOR HARDNESS VERIFICATION

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE CODE
013078	0814	15.467	ADAPTER HARDNESS	31
011178	1112	5.220	BODY HARDNESS #6	32

c. RAM AND PRODUCTION PERFORMANCE

Combined overall and individual station RAM performance of the adapter/grenade hardness verification equipment is summarized in Table II-4. Each grenade hardness station consists of a conveyor, demagnetization coil, eddy current coil, and tray-up machine and is required to perform a relatively simple operation. The only difference in adapter hardness equipment was the use of a separate feeder and conveyor. One, therefore, would not expect many RAM problems to exist with this system and the results in Table II-4 bear this out. Of particular importance is the high overall system availability of .98 observed during Prove-Out.

The ability of the hardness verification equipment to meet production requirements is apparent when the M483 production requirements of 5480 adapters per shift and 60280 grenades per shift are compared to the actual observed production quantities from the five shifts during which Prove-Out data was gathered. These quantities are provided in Table II-5. There was no evidence that the hardness verification equipment could not meet its design rate of 90 parts per minute. Situations in which the rate was observed to fall below this value were caused by the rate at which grenades were being manually fed to the conveyor rather than the actual capability of the equipment. The rate of manual feeding was, of course, governed to a large extent by the reduced M483 production schedule that prevailed during the Prove-Out test.

TABLE II-4 SUMMARY OF HARDNESS EQUIPMENT

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	NO. OF FAILURES	MTBF	MTRR	AVAIL
ADAPTER HARDNESS	1899.5	1877.2	22.3	19	98.8	1.18	0.988
BODY HARDNESS 2	1470.9	1435.8	35.1	26	55.2	1.35	0.976
BODY HARDNESS 3	1046.8	1033.3	13.5	9	13.5	1.50	0.987
BODY HARDNESS 4	1601.0	1564.5	36.5	19	82.3	1.92	0.977
BODY HARDNESS 5	1619.3	1603.7	15.6	18	89.1	0.87	0.990
BODY HARDNESS 6	1762.8	1729.7	33.1	23	75.2	1.44	0.981
OVERALL SYSTEM	9400.3	9244.2	156.1	114	81.1	1.37	0.983

TABLE II-5 ADAPTER/GRENADE HARDNESS VERIFICATION PRODUCTION DATA

	PRODUCTION QUANTITY				
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5
ADAPTER HARDNESS	6000	12000	14100	12900	12737
GRENADE HARDNESS	124928	130418	117520	109027	102314

DOWNTIME ANALYSIS

The data was grouped according to failure codes and analyzed to pinpoint equipment deficiencies which should be improved prior to future procurements of similar equipment. Table II-6 summarizes the downtime by failure code and machine and Table II-7 provides a summary of the downtime for each code. As evidenced by this data, this system does not appear to exhibit any significant RAM problems, being available 98% of the time.

TABLE II-6 DOWNTIME ANALYSIS OF HARDNESS EQUIPMENT

MACHINE	CODE	FREQUENCY	TOTAL TIME	MTR
ADAPTER	31	8	3.95	0.490
	32	10	15.48	1.55
	35	1	2.90	2.90
BODY HARDNESS 2	31	19	22.57	1.19
	32	7	12.52	1.79
BODY HARDNESS 3	31	8	12.60	1.58
	32	1	0.88	0.88
BODY HARDNESS 4	30	2	11.60	5.80
	31	14	22.10	1.58
	32	1	1.17	1.17
	33	2	1.60	0.80
BODY HARDNESS 5	31	14	10.13	0.72
	33	4	5.47	1.37
BODY HARDNESS 6	30	1	4.50	4.50
	31	20	26.17	1.31
	32	1	0.95	0.95
	33	1	1.50	1.50

TABLE II-7 DOWNTIME SUMMARY OF HARDNESS EQUIPMENT

CODE	FREQUENCY	TOTAL DOWNTIME
30	3	16.1
31	83	97.5
32	20	31.0
33	7	8.6
35	1	2.9

2. LEAD CUP INSERTION

a. GENERAL

This section summarizes the lead cup insertion equipment performance during the Prove-Out test. It includes individual and combined system RAM characteristics, a summary of production performance, and a detailed downtime analysis which pinpoint frequent causes of failure. In order to facilitate the required analysis, a list of expected failure modes with associated codes was developed.

b. FAILURE CODES AND OUTLIER CRITERIA

Table II-8 contains a list of failure codes with their respective definitions. Table II-9 provides, for each failure code, its data base frequency of occurrence, average repair time and its critical value for determination of outliers. Out of the total of 340 stoppages which were considered equipment failures, only five (5) were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-10.

TABLE II-8 FAILURE CODES - LEAD CUP INSERTION

FAILURE CODE	FAILURE MODE	DEFINITION
40	Miscellaneous problem	Lead cup machine
41	No body	No body at lead cup machine; Limit switch stops machine
42	Infeed jam	Bodies jam entering lead cup machine
43	Outfeed jam	Bodies jam on outfeed conveyor
44	Feeder jam	Lead cup jam occurs in feeder bowl
45	No body	No bodies at traying machine; Limit switch shuts off machine
46	Infeed jam	Bodies jam at traying machine
47	No tray	Tray not present at traying machine
48	Tray overrun	Tray contacts limit switch and causes machine to shut off
49	No lead cups	Feeder bowl out of lead cups
50	Starwheel jam	Starwheel requires adjustment or realignment

TABLE II-9 LEAD CUP OUTLIER CRITERIA

CODE	FREQUENCY	MTTR	CRITICAL VALUE
42	37	1.155	5.777
43	4	0.975	2.925
44	107	2.047	10.234
45	2	0.275	0.825
46	36	1.228	6.140
48	25	1.111	5.550
49	85	1.044	5.220
50	28	5.60	28.00

TABLE II-10 OUTLYING DATA FOR LEAD CUP MACHINES

DATE	TIME	REPAIR TIME	MACHINE NO.	FAILURE CODE
010478	0811	6.00	2	49
012378	1210	95.00	3	50
012378	1415	11.00	3	44
012478	0854	11.32	3	44
012478	0945	42.20	3	44

c. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the five lead cup machines observed during the demonstration test is provided in Tables II-11 A&B. This table also includes a presentation of the combined data and estimates for the five machines. It should also be noted that the machines operate with negligible reject rate, less than 0.05%.

Table II-12 provides a summary of the daily RAM performance of each lead cup machine. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed each day. A graphical portrayal of the variability in daily availability appears in Figure II-A.

The null hypothesis, that all five lead cup machines are equivalent in terms of anticipated availability, was not rejected using a one-way analysis of variance at the .05 level of significance. Because of the large amount of scheduled uptime on each day in comparison to the observed MTBF and MTTR estimates, it was assumed that the distribution of daily availability estimates could be approximated by a normal distribution. This served as the basis for the statistical test employed.

Daily production is summarized in Table II-13. It can be seen from this table that the production requirement of 60,280 grenades per shift was achieved during the demonstration test. When the entire production observed over the five day period is combined, it can be seen that on the average the requirement of 60,280 grenades/shift for the M483 production is easily exceeded.

The data summarized in Table II-13 reflects another important fact. On 3 of the 25 machine days the observed rate (total processed ÷ actual uptime) exceeded the design rate of 90 parts per minute. This demonstrates that the machines are inherently capable of meeting the design rate.

SUMMARY OF LEAD CUP INSERTION MACHINES

TABLE II-11A-RAM SUMMARY

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	NO. OF FAILURES	MTBF	MTRR	AVAIL
2	1602.6	1435.9	166.7	131	11.0	1.27	0.896
3	1152.5	1027.1	125.4	51	20.1	2.46	0.891
4	1682.7	1564.5	118.2	47	33.3	2.51	0.930
5	1690.6	1603.7	86.9	76	21.1	1.14	0.949
6	1764.8	1729.6	35.2	30	57.7	1.17	0.980
OVERALL SYSTEM	7893.2	7360.8	532.4	335	22.0	1.59	0.933

TABLE II-11B-PRODUCTION SUMMARY

	MACH #2	MACH #3	MACH #4	MACH #5	MACH #6	TOTAL
PRODUCTION QTY	104192	74840	129516	135343	134553	578444
TOTAL REJECTS	0	205	12	2	6	225
OBSERVED RATE	72.6	72.4	82.8	84.4	77.8	78.5

TABLE II-12 DAILY LEAD CUP MACHINE RAM RESULTS

MACHINE NO.	DAY #1				DAY #2				DAY #3				DAY #4				DAY #5							
	NO. FAILURES	MTBF	MTRR	AVAIL	MTBF	MTRR	AVAIL	FAILURES	MTBF	MTRR	AVAIL	FAILURES	MTBF	MTRR	AVAIL	FAILURES	MTBF	MTRR	AVAIL	FAILURES	MTBF	MTRR	AVAIL	
2	8	36.5	1.73	0.955	28	11.2	1.72	0.867	26	12.9	0.53	0.960	44	7.0	1.21	0.852	25	7.5	1.51	0.833				
3	11	28.1	4.14	0.872	12	26.0	0.97	0.964	3	31.3	0.43	0.987	7	7.8	6.29	0.555	18	14.3	1.28	0.917				
4	7	40.0	1.91	0.954	7	48.3	1.46	0.971	4	79.1	3.03	0.963	15	22.5	0.93	0.960	14	20.7	4.91	0.809				
5	15	18.7	0.93	0.952	14	24.3	2.12	0.920	12	26.0	0.63	0.976	18	19.4	0.84	0.959	17	18.9	1.21	0.940				
6	7	41.2	1.34	0.969	6	59.9	1.12	0.982	5	69.3	1.67	0.977	9	40.5	0.89	0.979	3	123.5	0.90	0.993				

TABLE II-13 DAILY PRODUCTION FOR LEAD CUP MACHINES

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5			AVERAGE	
	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	RATE P/MIN	PRODUCTION QTY	DAILY PRODUCTION	
2	28416	97.4	22656	72.0	26112	77.9	19584	64.0	7424	79.1	4352	18112	70.6	14968	39.4	20838	
3	19648	63.5	25304	81.1	7424	79.1	4352	79.1	18112	79.1	4352	18112	70.6	14968	70.6	14968	
4	26560	95.0	25690	75.2	24896	78.3	27683	82.2	24687	82.2	24687	24687	85.1	25903	85.1	25903	
5	28416	101.3	27776	81.6	24239	77.6	27584	79.0	27328	79.0	27328	27328	85.0	27069	85.0	27069	
6	21888	75.9	28992	80.6	29081	83.9	29824	81.7	24768	81.7	24768	24768	66.9	26911	66.9	26911	

LEAD CUP MACHINE AVAILABILITIES

1.00

.80

.80

AVAILABILITY

.70

.80

.50

.40

2

3

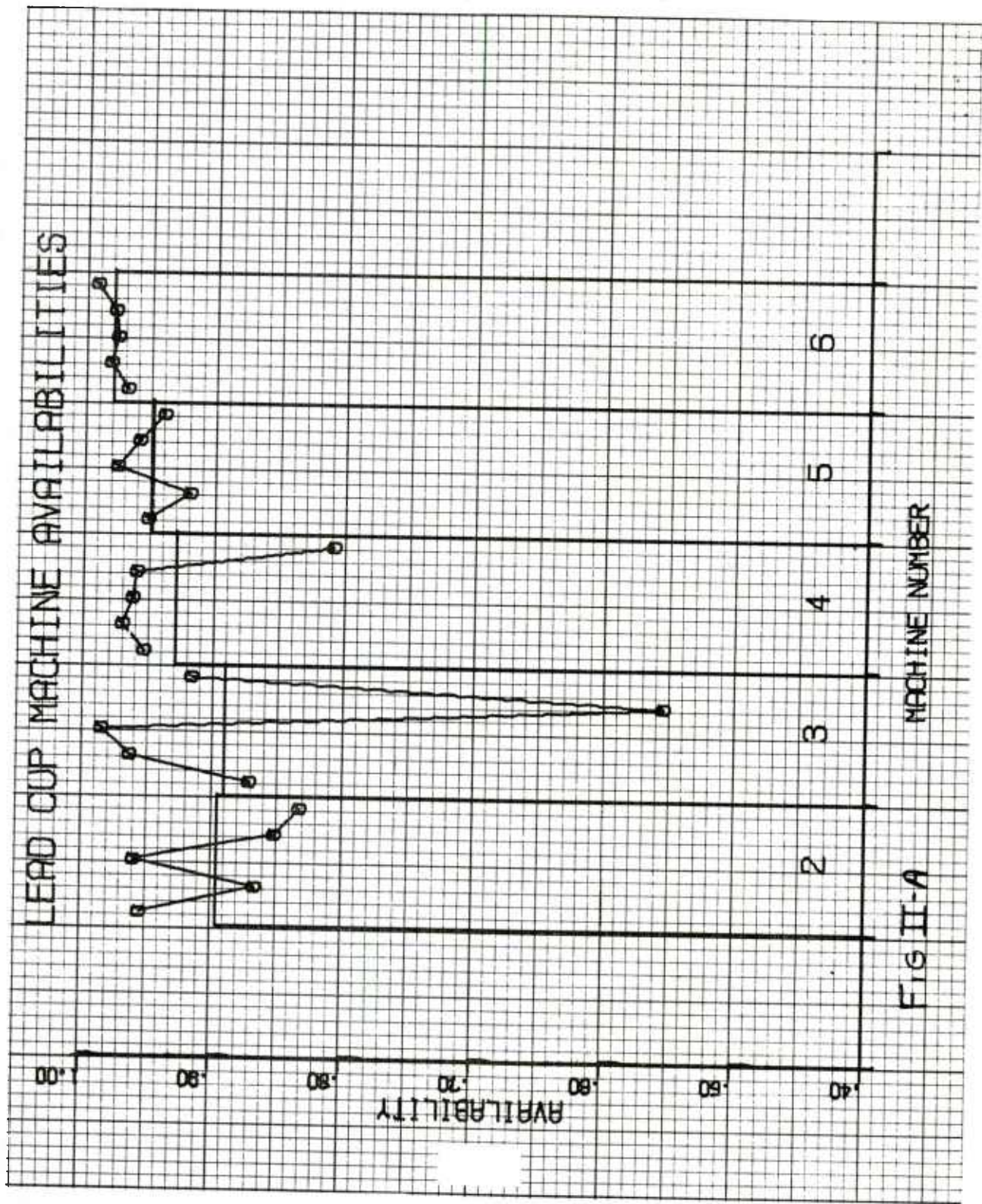
4

5

6

FIG II-A

MACHINE NUMBER



d. DOWNTIME ANALYSIS

The RAM data gathered on the lead cup machines during the demonstration test was analyzed by failure code on each machine separately and all machines combined. The primary purpose of this analysis was to highlight equipment RAM deficiencies so that improvements can be considered on present equipment and instituted for future procurements.

The results of the downtime analysis indicate three problem areas common to all machines. They are summarized in Table II-14.

TABLE II-14 LEAD CUP RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	DOWNTIME	% DOWNTIME
FEELER JAM	44	104	154.5	29.0
NO LEAD CUPS	49	84	82.8	15.5
SUBTOTAL	-	188	247.3	44.5
OTHER CAUSES	-	147	285.1	55.5
TOTAL	-	335	532.4	100.0

Both of these failure modes are related since they both involve lead cup jams. The jam occurs either prior to entering the feeder bowl or in the feeder bowl. The end result is the same; a grenade body is at the staking station and no lead cups are available. In addition to these failure modes, two miscellaneous lead cup problems involved cleaning of the syntron feeder bowl and occurred immediately after a lead cup jam. These two stoppages accounted for 69 minutes of downtime. Each of these problem areas is directly related to feeding of the lead cups to the staking station. This feed problem is responsible for 316 minutes of downtime or approximately 59% of the total downtime. It also represents 57% of the total failures recorded for the lead cup insertion system. Improvement of the lead cup feed system would result in a significant increase in the availability of these machines and an improved production capability.

Another problem encountered with the lead cup insertion involved lot-to-lot variations in the grenade bodies, and in particular, the lead cup holes in the grenade bodies. Irregularities of the lead cup hole due to piercing and coating operations present a problem with an automated system which inserts and stakes the lead cup. This problem did not exist with manual placing and staking of the lead cup. The problem disappears, if a particular lot of bodies causing the problem is replaced with another lot of grenade bodies. On two particular days, a machine was down for 152 minutes and 210 minutes for extensive adjustments and eventually involved changing grenade lots.

Table II-15 provides a breakout of the failure data by failure code for each machine. Table II-16 summarizes the downtime by failure code.

TABLE II-15 DOWNTIME ANALYSIS OF LEAD CUP INSERTION

MACHINE	CODE	FREQUENCY	TOTAL TIME	MTRR
LEAD CUP INSERTION NO. 2	40	9	20.97	2.33
	42	33	39.38	1.19
	44	40	59.90	1.50
	45	1	0.30	0.30
	46	20	11.77	0.59
	48	11	11.13	1.01
	49	17	23.25	1.37
	40	4	23.23	5.81
	42	1	0.95	0.95
LEAD CUP INSERTION NO. 3	44	28	41.25	1.47
	46	4	3.23	0.81
	48	8	12.03	1.50
	49	3	3.03	1.01
	50	3	41.67	13.89
	40	2	55.72	27.86
	42	2	1.92	0.96
	44	4	11.33	2.83
	46	5	16.80	3.36
LEAD CUP INSERTION NO. 4	48	4	3.22	0.80
	49	30	29.17	0.97
	40	1	14.13	14.13
	42	1	0.50	0.50
	43	4	3.90	0.98
	44	7	13.45	1.92
	45	1	0.25	0.25
	46	6	10.55	1.76
	48	1	1.33	1.33
LEAD CUP INSERTION NO. 5	49	32	25.63	0.80
	50	23	17.12	0.74
	44	25	28.55	1.14
	46	1	1.85	1.85
	48	1	0.05	0.05
	49	2	1.67	0.83
	50	1	3.03	3.03

TABLE II-16 DOWNTIME SUMMARY OF LEAD CUP INSERTION

CODE	FREQUENCY	TOTAL DOWNTIME
40	16	114.05
42	37	42.75
43	4	3.90
44	104	154.48
45	2	0.55
46	36	44.20
48	25	27.77
49	84	82.75
50	27	61.82
TOTAL	335	532.4

3. GRENADE BODY LOADING SYSTEMS

a. GENERAL

Prove-Out test performance of LSAAP body loading machines is summarized in this section. Included are combined overall estimates of body loading machine RAM characteristics and production rate; daily and overall estimates of RAM characteristics and production rates for individual machines; a detailed analysis of downtimes; a body loading machine subsystem RAM analysis; and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the body loading machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the grenade body loading systems are listed in Table II-17. The codes categorize common causes of body loading system failure and are listed under the corresponding subsystem with which they are associated.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR based on the available RAM data base and resultant critical values for each failure code are provided in Table II-18.

TABLE II-17 FAILURE CODES - BODY LOADING

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
<u>UNTRAYING MACHINE</u>		
100	Miscellaneous Problem	Untraying
101	Tray Position	Tray improperly positioned to unload bodies
102	Tray Overrun	Tray hits limit switch and machine shuts off
103	Infeed Jam	Body jam during untraying
<u>CONE SYNTRON</u>		
200	Miscellaneous Problem	Cone conveyor
201	Feed Rate	Cone syntron feed rate requires adjustment
202	Cone Turned Over	Cone overturned in syntron
203	Cone Jam	Cone jams exiting syntron
<u>POWDER FEED SYSTEM</u>		
210	Hung Bucket	Powder bucket hangs up while feeding pellet press
211	No Powder	Conveyor brings pallet without powder bucket to pellet press
212	Hung Pallet	Conveyor system jams when called for powder
215	Miscellaneous Problem	Powder conveyor system
<u>ASSEMBLY MACHINE</u>		
300	Miscellaneous Problem	Assembly machine
301	Reject Part	Body will not fit on nest
302	Out Jam	Body and nest assembly jam on outfeed conveyor
303	Body Jam	Bodies jam entering assembly machine
304	Nest Jam	Nests jam entering assembly machine
305	No Nest	Nest not available for assembly
306	No Body	Body not available for assembly
307	Limit Switch	Switch requires adjustment or replacement to keep machine operational
308	Lead Cup	Lead cup falls out of body and causes equipment hangup
<u>PELLET PRESS</u>		
400	Miscellaneous Problem	Pellet press
401	Part in Punch	Body sticks in punch after consolidation of powder
402	Upper Cam Jam	Upper punch fails to seat over body
403	High Punch	Punch fails to return to normal position
404	No Body	Body missing from nest
405	No Nest	Nest missing from body
406	Infeed Jam	Body assemblies jam entering press

TABLE II-17 CONTINUED

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
407	Out Jam	Body assemblies jam leaving press
408	High Charge	Maximum consolidation pressure - requires adjustment
409	Limit Switch	Switch requires adjustment or replacement to keep press operational
410	Powder Synttron	Powder hopper in press malfunctions, requires adjustment
411	No Powder	Body exits from press without powder

DISASSEMBLY MACHINE

500	Miscellaneous Problem	Disassembly machine
501	Low Part	Insufficient amount of powder in body
502	Nest Jam	Nest jam occurs after disassembly
503	Body Jam	Body jam occurs after disassembly
504	In Jam	Body assembly jams entering machine
505	Limit Switch	Switch requires adjustment or replacement to keep machine operational
506	No Nest	Body enters without nest - body removed
507	Starwheel Jam	Starwheels locks - requires adjustment

CONE SWAGE

600	Miscellaneous Problem	Cone swage
601	Cone in Punch	Cone sticks in punch during swaging
602	Upper Cam Jam	Upper punch fails to seat over body
603	Out Jam	Bodies jam on outfeed conveyor
604	Part in Punch	Swaged body sticks in punch
605	Cone Jam	Cone hangs up or overturns after entering swaging machine
606	Body Jam	Body jam occurs in swaging machine
607	High Punch	Punch fails to retract
608	In Jam	Bodies jam prior to entering swaging machine
609	Limit Switch	Switch requires adjustment or replacement to keep machine operational

GAGING MACHINE

700	Miscellaneous Problem	Gaging machine
701	Reject Jam	Reject parts due to cone depth, jam leaving gaging machine
702	Out Jam	Acceptable parts jam on outfeed conveyor
703	Infeed Jam	Parts jam entering gaging machine
704	Limit Switch	Switch requires adjustment or replacement to keep machine operational

TABLE II-17 CONTINUED

<u>CODE</u>	<u>DESCRIPTION</u>	<u>DEFINITION</u>
<u>TRAYING MACHINE</u>		
800	Miscellaneous Problem	Traying
801	Tray Overrun	Tray hits limit switch and machine shuts off
802	Infeed Jam	Bodies jam entering tray
803	Tray Position	Tray improperly positioned to load bodies
<u>ULTRASONIC CLEANER</u>		
900	Miscellaneous Problem	Ultrasonic cleaner
901	Infeed Jam	Nests jam entering ultrasonic cleaner
902	Outfeed Jam	Nest caught in chain or sticks in outfeed track
903	Nest Shuttle	Shuttle fails to feed nests to ultrasonic cleaner

TABLE II-18 BODY LOADING SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTR	CRITICAL VALUE
100	2	3.1415	9.4245
101	1	3.0670	9.2010
103	9	1.9426	5.8277
200	6	4.2417	12.7250
201	14	1.5846	4.7539
202	40	.5804	2.9020
203	85	.8814	4.4069
210	88	4.1462	20.7310
211	33	4.3409	21.7047
212	25	3.8527	19.2634
215	13	7.5243	22.5729
300	6	9.3112	27.9335
301	169	.7526	5.2679
302	13	1.4487	4.3461
303	21	1.5643	7.8214
304	36	1.1667	5.8335
305	5	.8766	2.6298
307	20	1.5184	7.5918
308	9	1.9130	5.7390
400	10	16.2050	48.6150
401	91	1.8403	9.2015
402	20	6.1267	30.6333
404	8	2.1063	6.3188
405	14	2.0083	6.0249
406	19	3.8947	19.4737
407	12	.7125	2.1375
408	34	3.1456	15.7279
409	9	4.4240	13.2720
410	7	4.4810	13.4430
411	13	1.4859	4.4578
500	3	5.7277	17.1830
501	2	.9250	2.7750
502	27	2.0056	10.0278
503	21	4.3484	21.7419
504	15	1.3345	4.0034
505	8	5.4063	16.2188
506	2	.7835	2.3505
507	9	3.6222	10.8667
600	6	4.2140	12.6420
601	33	7.4192	37.0959
602	9	10.8000	32.4000
603	2	.9335	2.8005
604	24	1.7958	8.9792
605	102	.9799	4.8995

TABLE II-18 BODY LOADING SYSTEM OUTLIER CRITERIA - CONTINUED

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
606	5	1.1966	3.5898
608	5	1.1300	3.3900
609	5	2.5666	7.6998
700	5	1.4134	4.2402
701	3	.9557	2.8670
702	2	1.4835	4.4505
703	7	1.3737	4.1211
704	1	.9170	2.7510
800	1	2.8670	8.6010
801	1	.6170	1.8510
802	5	.8400	2.5200
803	1	1.0000	3.0000
900	9	11.5241	34.5723
901	80	1.4150	7.0750
902	197	1.4761	10.3330
903	46	1.3279	6.6396

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 1127 stoppages which were considered equipment failures, only 26 were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-19.

TABLE II-19 OUTLYING DATA FOR BODY LOADING SYSTEMS

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE CODE
112977	0857	29.917	1	505
112977	1217	13.233	1	605
120177	0810	9.133	1	307
120277	0917	6.133	1	605
120277	1001	17.100	1	600
120277	1427	15.917	1	401
120577	0750	31.000	1	215
121677	1234	30.567	2	211
122977	0844	38.767	3	602
112977	1201	9.633	3	604
113077	0745	25.800	3	409
113077	0907	6.500	3	308
120177	0830	60.000	3	503
121477	1436	6.333	3	103
120577	0808	6.250	4	302
120577	0956	25.850	4	210
120677	1048	12.533	4	401
121477	0920	10.000	4	401
121577	1350	41.683	4	602
121677	0915	105.000	4	601
121677	1235	30.000	4	210
121677	1305	11.267	4	401
120777	0827	11.667	5	401
120777	0850	40.583	5	300
120877	0910	5.883	5	304
121277	1255	120.000	5	400

In addition to the 26 outliers in Table II-19, 170 other stop-pages originally scored as failures were deleted. They included 166 code 301 failures and one non-coded failure. A code 301 failure is classified as a reject part because there is a particular defect in a body which prevents it from seating properly on the nest in the assembly machine. This in turn causes the machine to stop as a result of improper mating of the parts. The code 301 failures were deleted because it was considered inappropriate to penalize the equipment for failing when the problem is probably due to non-conforming parts (grenade bodies). The tight tolerances required for proper mating between nest and body would seem to justify this conclusion. The non-coded failure was a 180 minute downtime due to a pellet press explosion on body loader #4 on the second day of data collection. Since it is known that such explosions occur infrequently, it would have been an inaccurate reflection of body loading system RAM performance to include this failure in the analysis.

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics and production data for the five body loaders observed during the LSAAP Prove-Out is provided as Table II-20. This table also includes a presentation of the combined data and estimates for the five machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for all body loaders are provided in Figures II-B and II-C respectively.

Table II-21 provides a summary of the daily RAM performance on each of the body loaders. The table includes estimates of MTBF, MTTR, and availability, as well as the number of failures observed during each day.

The null hypothesis, that the body loading machines are equivalent in terms of anticipated availability, was rejected based on a statistical test using the limited daily availability data provided. Because of the large amount of scheduled uptime on each day in comparison to the observed MTBF and MTTR estimates, it was assumed that the distribution of daily availability estimates could be approximated very well by a normal distribution. This served as the basis for the statistical test employed.

A standard statistical multiple comparison test was then applied to the average daily availabilities of the five body loaders to characterize the indicated difference.

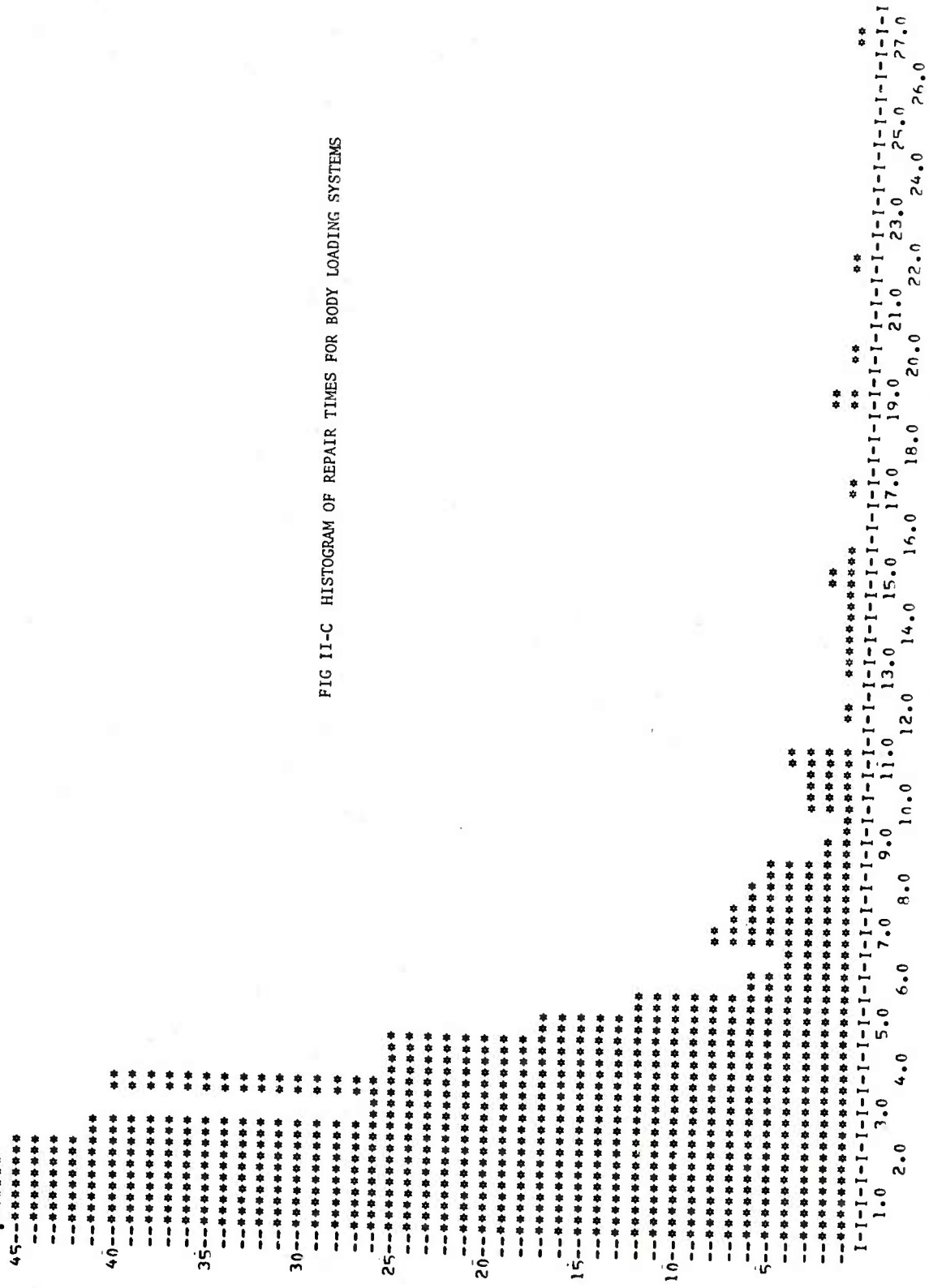
The results of this test indicated that statistical significance was due to the fact that machines #1, #2, and #3 exhibit equivalent RAM performance with availabilities around .80, while machines #4 and #5 exhibit availabilities on the average below .70.

Graphical portrayal of the variability in daily availabilities for the five body loading systems is provided in Figure II-D.

TABLE II-20 BODY LOADING MACHINE DATA

MACHINE NO.	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTR	AVAIL	NO. FAILURES	PRODUCTION QTY	REJECT QTY	OBSERVED RATE
1	1691.2	1345.6	345.6	7.73	1.99	.796	174	130857	1084	97.3
2	1751.3	1358.9	392.4	6.90	1.99	.776	197	129024	664	95.0
3	1680.4	1356.4	324.0	7.89	1.88	.807	172	128041	985	94.4
4	1113.8	756.2	357.6	5.36	2.54	.679	141	77005	727	101.8
5	1443.2	977.6	465.6	3.91	1.86	.677	250	94727	966	96.9
SUMMARY	7679.9	5794.7	1885.2	6.20	2.02	.755	934	559654	4426	96.6

FIG II-C HISTOGRAM OF REPAIR TIMES FOR BODY LOADING SYSTEMS



REPAIRS (IN MINUTES)

TABLE II-21 DAILY BODY LOADING MACHINE RAM RESULTS

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5							
	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL				
1	44	5.79	2.00	.743	35	8.98	1.21	.881	17	17.91	3.37	.842	41	6.02	1.57	.793	37	6.08	2.52	.707
2	57	4.62	1.87	.712	37	7.87	1.34	.885	29	9.97	2.28	.814	44	5.98	2.25	.727	30	8.41	2.37	.780
3	31	8.83	1.70	.839	29	8.85	2.31	.793	31	8.00	1.84	.813	38	7.77	1.70	.820	43	6.57	1.92	.774
4	44	5.12	2.02	.717	20	6.65	1.60	.806	31	3.21	2.55	.557	23	7.99	4.06	.663	23	5.00	2.80	.641
5	41	4.49	1.83	.710	57	3.73	1.91	.662	73	2.90	1.75	.624	21	5.15	3.10	.624	58	4.50	1.53	.746

TABLE II-22
BODY LOADING DAILY PRODUCTION

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5		
	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
1	23255	192	91.3	30983	284	98.6	30539	243	100.3	24576	200	99.5	21504	164	95.6
2	27648	109	105.0	24576	128	84.4	30720	88	106.3	24576	177	93.4	21504	162	85.3
3	24184	258	88.3	24576	137	95.7	23811	128	96.1	29467	92	99.8	26003	370	92.0
4	22059	393	98.0	12723	107	95.7	9633	79	96.8	21126	104	114.9	11464	44	99.8
5	17696	118	96.1	20425	155	96.1	20854	49	98.5	10752	202	99.5	25000	442	95.8

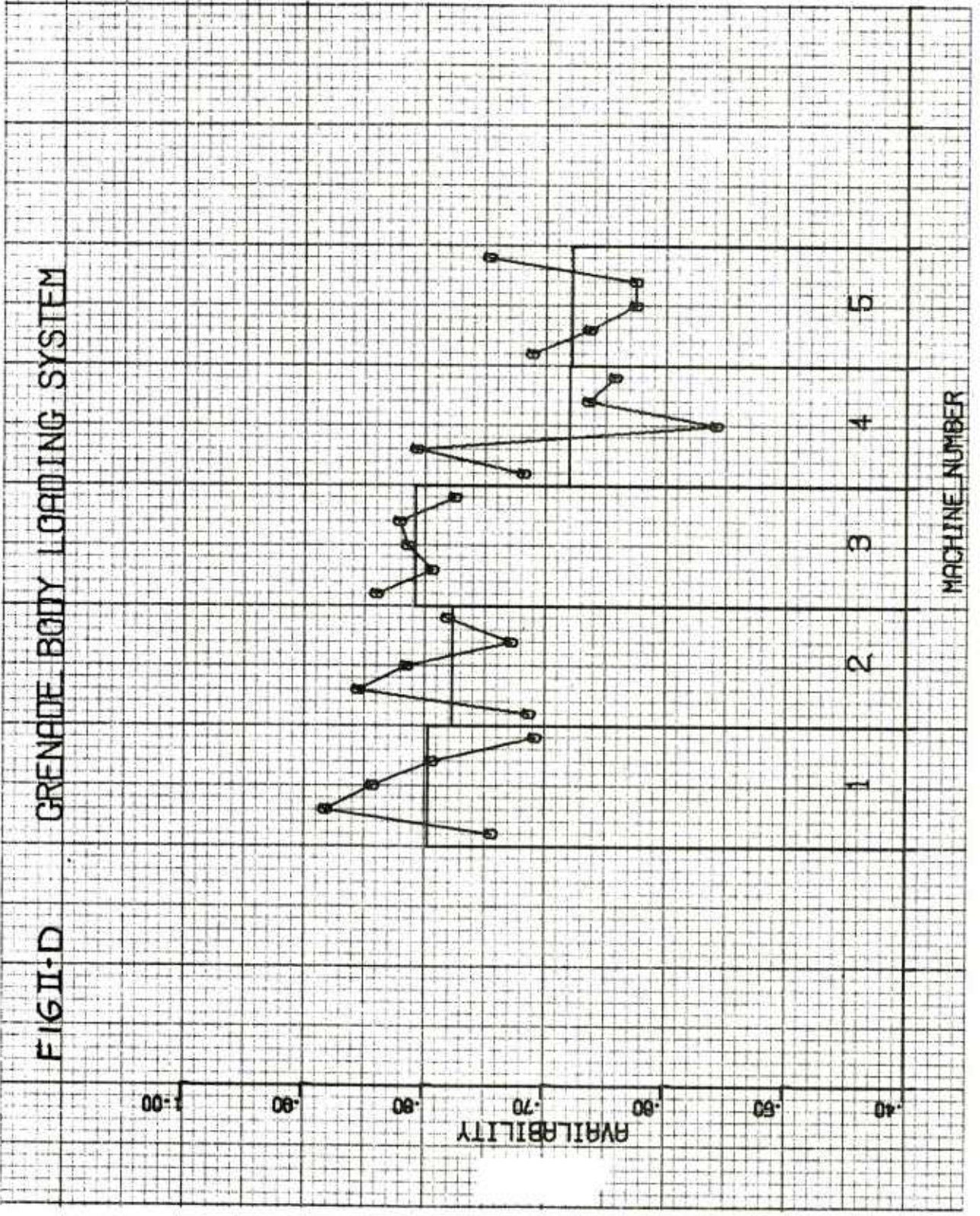


FIG II-D
GRENADE BODY LOADING SYSTEM

Daily production from each body loader is summarized in Table II-22. It can be seen from this table that the M483 grenade production requirement of 60280 grenades/shift was easily achieved. Furthermore, the production data indicates that anticipated M509 grenade production requirements (68,640 additional grenades/shift) will be achieved with the use of an additional body loader.

The data summarized in Table II-22 reflects that on 22 of the 25 machine-shifts during which data was gathered, the observed rate (total grenades processed ÷ actual uptime) exceeded the design rate requirement of 90 parts per minute. In 19 of these cases the observed rate exceeded 95 parts per minute. These results amplify the importance of achieving satisfactory levels of machine availability, since when the machines are operating they are capable of performing well in excess of established production requirements.

Finally, Table II-22 reflects the fact that the body loaders consistently operate at a reject rate substantially less than 2 per cent and, in most cases, less than 1 per cent. These results imply that the effects of reject rate on production capability may be considered negligible for the body loading systems.

The daily observed net rate of production for each body loader is provided in Table II-23. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the limited results in Table II-23 were used to compare the body loading systems on the basis of net rate. Based on this statistical test, the null hypothesis that the systems are equivalent was not rejected at the .05 level of significance.

TABLE II-23 BODY LOADING SYSTEM NET RATES

MACHINE NO.	DAILY NET RATE (PARTS/MIN)					AVERAGE
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5	
1	67.3	86.0	83.7	78.3	67.0	76.7
2	74.4	71.8	86.3	67.4	66.0	73.3
3	73.3	75.5	77.7	81.6	70.2	75.6
4	69.0	76.5	53.5	75.8	63.7	68.5
5	67.8	63.1	61.3	60.9	70.2	65.0

e. DOWNTIME ANALYSIS

The RAM data gathered on the body loading systems during the Prove-Out test was analyzed by failure code on each machine separately and all machines combined. The primary purpose of this analysis was to highlight equipment RAM deficiencies so that improvements can be considered on present equipment and instituted for future procurements.

Tables II-24A to II-24E provide a breakdown of the failure data for each machine. A summary of downtimes, by type, is provided in Table II-25.

These results indicate four problem areas common to all or most of the body loaders. They are broken out separately in Table II-26.

TABLE II-26 BODY LOADING RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TOTAL DOWNTIME	% DOWNTIME
Hung Bucket	210	72	298.0	15.8
Part in Punch	401	72	87.0	4.6
Cone in Punch	601	19	123.7	6.6
Outfeed Jam	902	126	140.5	7.4
Above Combined	-	289	649.2	34.4
All Combined	-	934	1885.4	100.0

On the surface it appears that the Code 210 Hung Bucket and Code 902 Outfeed Jam problems should require only minor design modifications to solve, since they involve relatively simple material handling equipment. It is likely that the Code 401 Part in Punch and Code 601 Cone in Punch problems could be solved by increasing the clearance between the punch and part through a slight reduction in the diameter of the punch. If sufficient design changes are made to eliminate the problems summarized in Table II-26 a resultant increase in average body loading system availability from 75.5% to as much as 82.4% could be anticipated, with consequent improvement in production capability.

TABLE II-24A DOWNTIME ANALYSIS OF BODY LOADING SYSTEM

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
RODY LOADING STATION 1	174	345.633	1.986
100 UNTRAYING-MISC. PROBLEM	1	5.633	5.633
201 CONE SYNTRON FEED	9	15.517	1.724
202 CONE TURNED OVER	1	.383	.383
210 HUNG RUCKFT	12	36.117	3.010
211 NO POWDER	4	11.167	2.792
215 POWDER CONVEYOR-MISC.PROB	2	25.283	12.642
300 ASSY MACHINE-MISC.PROBLEM	1	3.417	3.417
302 OUT JAM	5	4.950	.990
303 RODY JAM	2	4.583	2.292
304 NEST JAM	9	8.267	.919
307 LIMIT SWITCH	6	14.133	2.356
400 PELLET PREFSS-MISC. PROBLE	1	20.000	20.000
401 PART IN PUNCH	12	12.033	1.003
405 NO NEST	3	7.800	2.600
406 INFEED JAM	4	15.850	3.963
408 POWDER CHARGE	2	4.133	2.067
409 LIMIT SWITCH	2	4.533	2.267
500 DISASSFMBLY-MISC. PROBLEM	1	3.883	3.883
502 NEST JAM	6	11.150	1.858
503 BODY JAM	3	9.050	3.017
504 INFEED JAM	3	6.650	2.217
505 LIMIT SWITCH	5	10.883	2.177
600 CONE SWAGF-MISC. PROBLEM	1	1.950	1.950
601 CONE IN PUNCH	3	40.167	13.389
602 UPPER CAM JAM	1	4.367	4.367
604 PART IN PUNCH	3	2.433	.811
605 CONE JAM	59	41.883	.710
608 INFEED JAM	3	3.683	1.228
609 LIMIT SWITCH	1	3.283	3.283
702 OUTJAM	1	2.200	2.200
703 INFEED JAM	1	1.000	1.000
704 LIMIT SWITCH	1	.917	.917
802 INFEED JAM	1	.633	.633
901 INFEED JAM	3	4.867	1.622
902 OUTFFED JAM	2	2.833	1.417

TABLE II-24B DOWNTIME ANALYSIS OF BODY LOADING SYSTEM

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 2	197	392.417	1.992
0 NON-CODED FAILURES	1	2.500	2.500
101 TRAY POSITION	1	3.067	3.067
200 CONE CONVEYOR-MISC.PROBLE	2	10.983	5.492
210 HUNG RUCKFT	6	18.433	3.072
211 NO POWDER	16	65.783	4.111
212 HUNG PALLFT	2	5.000	2.500
215 POWDFR CONVEYOR-MISC.PROB	2	5.667	2.833
302 OUT JAM	1	.500	.500
303 BODY JAM	1	.650	.650
304 NEST JAM	3	4.383	1.461
307 LIMIT SWITCH	10	4.767	.477
308 LEAD CUP	2	.717	.358
400 PELLFT PRESS-MISC. PROBLE	3	13.267	4.422
401 PART IN PUNCH	15	14.150	.943
402 UPPER CAM JAM	6	27.117	4.519
404 NO BODY	1	.483	.483
405 NO NEST	1	.750	.750
406 INFEEED JAM	2	6.200	3.100
409 LIMIT SWITCH	3	5.733	1.911
410 POWDER SYNTRON	7	31.367	4.481
411 NO POWDER	10	15.567	1.557
500 DISASSEMBLY-MISC. PROBLEM	2	13.300	6.650
502 NEST JAM	3	1.000	.333
503 BODY JAM	1	.567	.567
505 LIMIT SWITCH	1	.967	.967
507 STAR WHEEL JAM	8	24.917	3.115
600 CONE SWAGE-MISC. PROBLEM	2	2.217	1.108
604 PART IN PUNCH	1	1.050	1.050
605 CONE JAM	3	2.317	.772
802 INFEEED JAM	1	.317	.317
803 TRAY POSITION	1	1.000	1.000
900 ULTRASONIC-MISC. PROBLEM	1	18.983	18.983
901 INFEEED JAM	29	25.533	.880
902 OUTFEED JAM	5	3.950	.790
903 NEST SHUTTLE	44	59.217	1.346

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
LFAD CUP STARWHEEL JAM	2.50

TABLE II-24C DOWNTIME ANALYSIS OF BODY LOADING SYSTEM

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 3	172	324.050	1.884
103 INFEED JAM	2	2.267	1.133
200 CONE CONVFYOR-MISC.PROBLE	3	12.600	4.200
203 CONE JAM	5	3.167	.633
210 HUNG RUCKFT	11	28.867	2.624
212 HUNG PALLFT	11	36.183	3.289
215 POWDER CONVEYOR-MISC.PROB	1	1.283	1.283
304 NEST JAM	1	.450	.450
305 NO NEST	3	2.933	.978
307 LIMIT SWITCH	1	.433	.433
308 LEAD CUP	5	9.533	1.907
401 PART IN PUNCH	12	18.767	1.564
402 UPPER CAM JAM	3	13.233	4.411
404 NO BODY	1	3.150	3.150
405 NO NEST	2	5.850	2.925
408 POWDER CHARGE	12	53.800	4.483
501 LOW PART	1	1.200	1.200
502 NEST JAM	5	13.983	2.797
505 LIMIT SWITCH	1	2.483	2.483
506 NO NEST	1	.550	.550
600 CONE SWAGF-MISC. PROBLEM	1	3.367	3.367
601 CONE IN PUNCH	4	22.683	5.671
604 PART IN PUNCH	7	10.133	1.448
605 CONE JAM	13	9.083	.699
609 LIMIT SWITCH	2	4.850	2.425
700 GAGING MACHINE-MISC. PROB	5	7.067	1.413
701 REJECT JAM	3	2.867	.956
703 INFEED JAM	5	6.283	1.257
900 ULTRASONIC-MISC. PROBLEM	1	4.367	4.367
902 OUTFEED JAM	49	41.750	.852
903 NEST SHUTTLE	1	.867	.867

TABLE II-24D DOWNTIME ANALYSIS OF BODY LOADING SYSTEM

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 4	141	357.633	2.536
200 CONE CONVEYOR-MISC.PROBLE	1	1.867	1.867
201 CONE SYNTRON FEED	1	.917	.917
203 CONE JAM	22	11.983	.545
210 HUNG BUCKET	15	117.350	7.823
211 NO POWDER	3	11.567	3.856
212 HUNG PALLFT	2	14.317	7.158
215 POWDER CONVEYOR-MISC.PROB	2	2.700	1.350
300 ASSY MACHINE-MISC.PROBLEM	3	10.033	3.344
302 OUT JAM	3	2.733	.911
303 BODY JAM	8	14.600	1.825
305 NO NEST	2	1.450	.725
307 LIMIT SWITCH	1	1.583	1.583
400 PELLET PRESS-MISC. PROBLE	1	1.950	1.950
401 PART IN PUNCH	12	19.450	1.621
402 UPPER CAM JAM	3	10.283	3.428
404 NO BODY	2	2.100	1.050
405 NO NEST	2	1.983	.992
406 INFEED JAM	1	3.717	3.717
408 POWDER CHARGE	3	4.100	1.367
502 NEST JAM	3	7.617	2.539
503 BODY JAM	1	3.133	3.133
504 INFEED JAM	3	2.117	.706
601 CONE IN PUNCH	5	54.300	10.860
604 PART IN PUNCH	1	2.000	2.000
605 CONE JAM	2	1.533	.767
606 BODY JAM	1	.867	.867
609 LIMIT SWITCH	1	2.267	2.267
703 INFEED JAM	1	2.333	2.333
801 TRAY OVERRUN	1	.617	.617
900 ULTRASONIC-MISC. PROBLEM	1	.500	.500
901 INFEED JAM	2	5.650	2.825
902 OUTFEED JAM	32	40.017	1.251

TABLE II-24E DOWNTIME ANALYSIS OF BODY LOADING SYSTEM

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
BODY LOADING STATION 5	250	465.633	1.863
0 NON-CODED FAILURES	1	10.500	10.500
201 CONE SYNTPON FEED	1	1.517	1.517
203 CONE JAM	44	47.417	1.078
210 HUNG BUCKFT	28	97.233	3.473
211 NO POWDER	1	4.817	4.817
215 POWDER CONVEYOR-MISC.PROB	5	31.883	6.377
300 ASSY MACHINE-MISC.PROBLEM	1	1.833	1.833
302 OUT JAM	2	3.883	1.942
303 BODY JAM	3	7.050	2.350
304 NEST JAM	15	18.033	1.202
400 PELLET PRFSS-MISC. PROBLE	4	6.833	1.708
401 PART IN PUNCH	21	22.567	1.075
402 UPPER CAM JAM	2	6.450	3.225
404 NO BODY	4	11.117	2.779
405 NO NEST	5	9.583	1.917
406 INFEDD JAM	3	10.733	3.578
407 OUT JAM	2	1.250	.625
408 POWDER CHARGE	16	42.917	2.682
409 LIMIT SWITCH	1	1.283	1.283
411 NO POWDER	3	3.750	1.250
502 NEST JAM	5	12.850	2.570
503 BODY JAM	11	15.483	1.408
504 INFEDD JAM	1	1.283	1.283
601 CONE IN PUNCH	7	6.583	.940
602 UPPER CAM JAM	6	12.383	2.064
603 OUTJAM	1	.850	.850
604 PART IN PUNCH	4	6.133	1.533
605 CONE JAM	4	1.700	.425
606 BODY JAM	3	3.383	1.128
800 TRAYING-MISC. PROBLEM	1	2.867	2.867
802 INFEDD JAM	3	3.250	1.083
900 ULTRASONIC-MISC. PROBLEM	1	2.917	2.917
901 INFEDD JAM	3	3.367	1.122
902 OUTFEED JAM	38	51.933	1.367

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
DISCONNECT NO 1 VACUUM MOTOR	10.50

TABLE II-25 BODY LOADING DOWNTIME SUMMARY

CODE	FAILURE MODE	FREQUENCY	TIME
0	NON-CODED FAILURES	2	13.000
100	UNTRAYING-MISC. PROBLEM	1	5.633
101	TRAY POSITION	1	3.067
103	INFEED JAM	2	2.267
200	CONE CONVEYOR-MISC. PROBLE	6	25.450
201	CONE SYNTRON FEED	11	17.951
202	CONE TURNED OVER	1	.383
203	CONE JAM	71	62.567
210	HUNG BUCKET	72	298.000
211	NO POWDER	24	93.334
212	HUNG PALLET	15	55.500
215	POWDER CONVEYOR-MISC. PROBR	12	66.816
300	ASSY MACHINE-MISC. PROBLEM	5	15.283
302	OUT JAM	11	12.066
303	BODY JAM	14	26.883
304	NEST JAM	28	31.133
305	NO NEST	5	4.383
307	LIMIT SWITCH	18	20.916
308	LFAD CUP	7	10.250
400	PELLLET PRESS-MISC. PROBLE	9	42.050
401	PART IN PINCH	72	86.967
402	UPPER CAM JAM	14	57.083
404	NO BODY	8	16.850
405	NO NEST	13	25.966
406	INFEED JAM	10	36.500
407	OUT JAM	2	1.250
408	POWDER CHARGE	33	104.950
409	LIMIT SWITCH	6	11.549
410	POWDER SYNTRON	7	31.367
411	NO POWDER	13	19.317
500	DISASSEMBLY-MISC. PROBLEM	3	17.183
501	LOW PART	1	1.200
502	NEST JAM	22	46.600
503	BODY JAM	16	28.233
504	INFEED JAM	7	10.050
505	LIMIT SWITCH	7	14.333
506	NO NEST	1	.550
507	STAR WHEEL JAM	8	24.917
600	CONE SWAGE-MISC. PROBLEM	4	7.534
601	CONE IN PINCH	19	123.733
602	UPPER CAM JAM	7	16.750
603	OUTJAM	1	.850
604	PART IN PINCH	16	21.749
605	CONE JAM	81	56.516
606	BODY JAM	4	4.250
608	INFEED JAM	3	3.683
609	LIMIT SWITCH	4	10.400
700	GAGING MACHINE-MISC. PROBR	5	7.067
701	REJECT JAM	3	2.867
702	OUTJAM	1	2.200
703	INFEED JAM	7	9.616
704	LIMIT SWITCH	1	.917
800	TRAYING-MISC. PROBLEM	1	2.867
801	TRAY OVERRUN	1	.617
802	INFEED JAM	5	4.200
803	TRAY POSITION	1	1.000
900	ULTRASONIC-MISC. PROBLEM	4	26.767
901	INFEED JAM	37	39.417
902	OUTFEED JAM	126	140.483
903	NEST SHUTTLE	45	60.084

TOTAL FAILURES= 934
TOTAL DOWNTIME= 1885.200

f. SUBSYSTEM RAM ANALYSIS

The Grenade Body Loading System is comprised of ten separate machines or subsystems. They are:

- (1) Untraying
- (2) Cone Feed
- (3) Powder Feed
- (4) Body/Nest Assembly
- (5) Pellet Press
- (6) Disassembly
- (7) Cone Swaging
- (8) Gaging
- (9) Traying
- (10) Ultrasonic Cleaning

Table II-27 contains RAM data and estimates by subsystem for each body loading system individually. The subsystem availabilities in this table and in Table II-28 were calculated according to the following:

$$\text{SUBSYSTEM UPTIME} = \text{TSU} - \Sigma(\text{OTHER SUBSYSTEM DOWNTIMES})$$

where TSU = Total Scheduled Uptime for System

$$\text{SUBSYSTEM AVAILABILITY} = \frac{\text{SUBSYSTEM UPTIME} - \text{SUBSYSTEM DOWNTIME}}{\text{SUBSYSTEM UPTIME}}$$

A graphical depiction of daily variability in subsystem availabilities is provided in Figures II-E & II-F for selected subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to statistical tests of hypotheses to compare subsystems between body loading systems. No statistically significant differences were found. There is, therefore, no evidence to indicate that the overall RAM performance of a subsystem in one body loader differs from that of the similar subsystem in the other. As a result, the subsystem RAM data for body loading systems can be combined. The combined RAM data and estimates are provided in Table II-19. These results show that a total of 77.3% of the downtime observed on the body loading systems during Prove-Out is attributable to four subsystems: Powder Feed, Pellet Press, Cone Swage, and Ultrasonic Cleaner. The major problems associated with these subsystems have been respectively addressed in the preceding downtime analysis. An additional problem with the Pellet Press involves the upper punch failing to seat over bodies (failure code 402). Cones hanging up or overturning after entering the swaging machine (failure code 605) is an additional problem with the Cone Swage subsystem. Significant improvement in body loading availability could be realized if these problems were reduced or eliminated.

TABLE II-27 BODY LOADING SUBSYSTEM RAM RESULTS

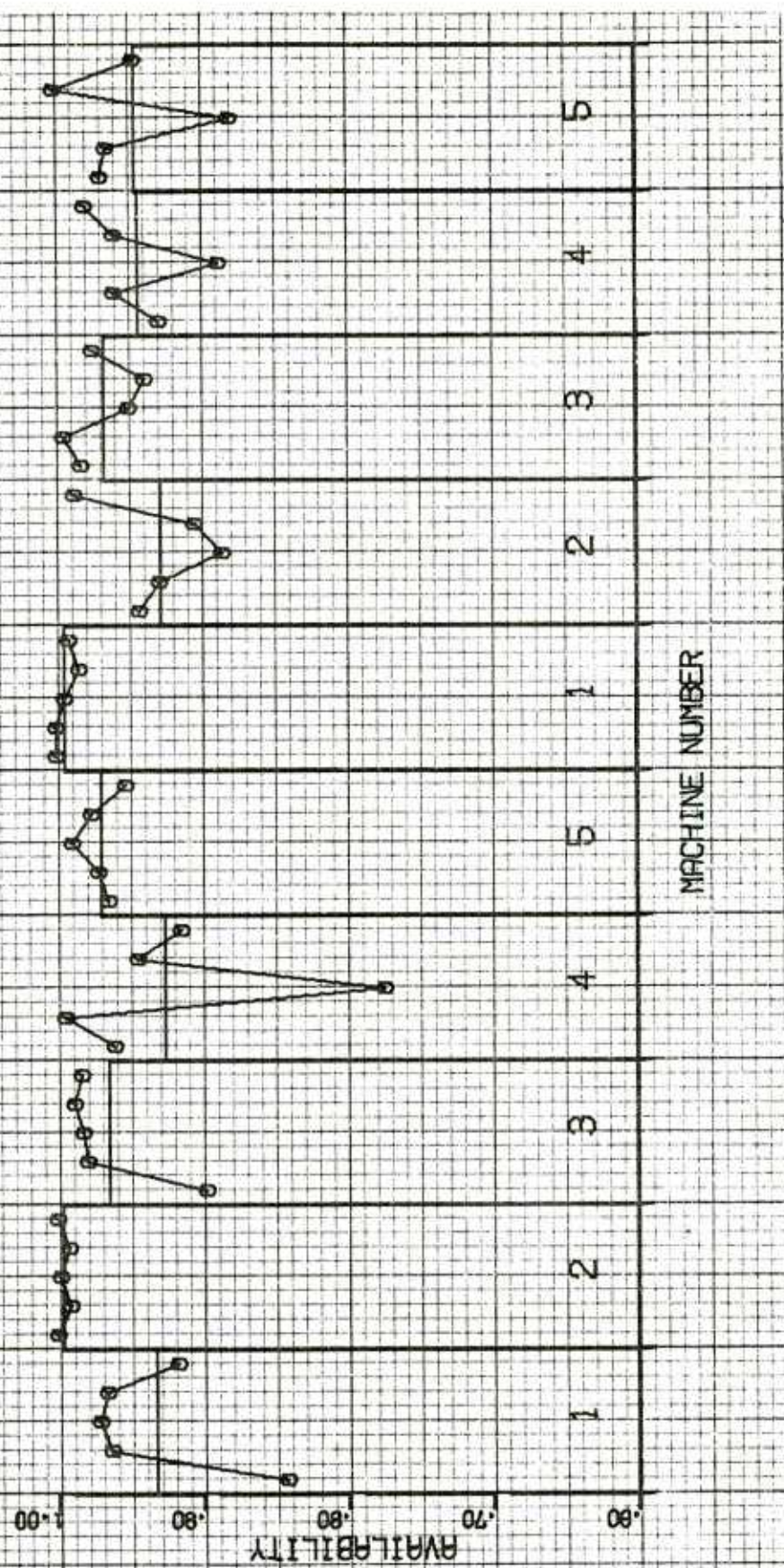
STATION/SUBSYSTEM	FREQ	DDWNTIME	TOTAL TIME	% DOWNTIME	MTRR	MTRF	AVAIL
BODY LOADING STATION 1							
UNTRAYING	1	5.6	1351.2	1.6	5.63	1345.60	.9958
CONE FEED	10	15.9	1361.5	4.6	1.59	134.56	.9883
POWDER FEED	18	72.6	1418.2	21.0	4.03	74.76	.9488
ASSEMBLY	23	35.4	1381.0	10.2	1.54	58.50	.9744
PELLET PRESS	24	64.3	1410.0	18.6	2.68	56.07	.9544
DISASSEMBLY	18	41.6	1387.2	12.0	2.31	74.76	.9700
CONE SWAGE	71	97.8	1443.4	28.3	1.38	18.95	.9323
GAUGING	3	4.1	1349.7	1.2	1.37	448.53	.9969
TRAYING	1	.6	1346.2	.2	.63	1345.60	.9995
ULTRASONIC	5	7.7	1353.3	2.2	1.54	269.12	.9943
BODY LOADING STATION 2							
NON-CODED FAILURES	1	2.5	1361.4	.6	2.50	1358.87	.9982
UNTRAYING	1	3.1	1361.9	.8	3.07	1358.87	.9977
CONE FEED	2	11.0	1369.9	2.8	5.49	679.43	.9920
POWDER FEED	26	94.9	1453.8	24.2	3.65	52.26	.9347
ASSEMBLY	17	11.0	1369.9	2.8	.65	79.93	.9920
PELLET PRESS	48	114.6	1473.5	29.2	2.39	28.31	.9222
DISASSEMBLY	15	40.7	1399.6	10.4	2.72	90.59	.9709
CONE SWAGE	6	5.6	1364.5	1.4	.93	226.48	.9959
TRAYING	2	1.3	1360.2	.3	.66	679.43	.9990
ULTRASONIC	79	107.7	1466.6	27.4	1.36	17.20	.9266
BODY LOADING STATION 3							
UNTRAYING	2	2.3	1358.6	.7	1.13	678.18	.9983
CONE FEED	8	15.8	1372.1	4.9	1.97	169.54	.9885
POWDER FEED	23	66.3	1422.7	20.5	2.88	58.97	.9534
ASSEMBLY	10	13.4	1369.7	4.1	1.34	135.64	.9903
PELLET PRESS	30	94.8	1451.2	29.3	3.16	45.21	.9347
DISASSEMBLY	8	18.2	1374.6	5.6	2.28	169.54	.9867
CONE SWAGE	27	50.1	1406.5	15.5	1.86	50.24	.9644
GAUGING	13	16.2	1372.6	5.0	1.25	104.33	.9882
ULTRASONIC	51	47.0	1403.3	14.5	.92	26.60	.9665
BODY LOADING STATION 4							
CONE FEED	24	14.8	770.9	4.1	.62	31.51	.9808
POWDER FEED	22	145.9	902.1	40.8	6.63	34.37	.8382
ASSEMBLY	17	30.4	786.6	8.5	1.79	44.48	.9614
PELLET PRESS	24	43.6	799.8	12.2	1.82	31.51	.9455
DISASSEMBLY	7	12.9	769.0	3.6	1.84	108.02	.9833
CONE SWAGE	10	61.0	817.1	17.0	6.10	75.62	.9254
GAUGING	1	2.3	758.5	.7	2.33	756.17	.9969
TRAYING	1	.6	756.8	.2	.62	756.17	.9992
ULTRASONIC	35	46.2	802.3	12.9	1.32	21.60	.9425
BODY LOADING STATION 5							
NON-CODED FAILURES	1	10.5	988.1	2.3	10.50	977.55	.9894
CONE FEED	45	48.9	1026.5	10.5	1.09	21.72	.9523
POWDER FEED	34	133.9	1111.5	28.8	3.94	28.75	.8795
ASSEMBLY	21	30.8	1008.4	6.6	1.47	46.55	.9695
PELLET PRESS	61	116.5	1094.0	25.0	1.91	16.03	.8935
DISASSEMBLY	17	29.6	1007.2	6.4	1.74	57.50	.9706
CONE SWAGE	25	31.0	1008.6	6.7	1.24	39.10	.9692
TRAYING	4	6.1	983.7	1.3	1.53	244.39	.9938
ULTRASONIC	42	58.2	1035.8	12.5	1.39	23.28	.9438

TABLE II-28 BODY LOADING - SUBSYSTEM RAM SUMMARY

STATION/SUBSYSTEM	FREQ	DOWNTIME	% DOWNTIME	MTTR	MTBF	AVAIL
OVERALL STATION	934	1885.4	100.0	2.02	6.20	.7545
NON-CODED FAILURES	2	13.0	.7	6.50	2897.27	.9978
UNTRAYING	4	11.0	.6	2.74	1448.63	.9981
CONE FEED	89	106.4	5.6	1.19	65.11	.9820
POWDER FEED	123	513.6	27.2	4.18	47.11	.9186
ASSEMBLY	88	120.9	6.4	1.37	65.85	.9796
PELLET PRESS	187	433.8	23.0	2.32	30.99	.9303
DISASSEMBLY	65	143.1	7.6	2.20	89.15	.9759
CONE SWAGE	139	245.5	13.0	1.77	41.69	.9594
GAUGING	17	22.7	1.2	1.33	340.85	.9961
TRAYING	8	8.7	.5	1.09	724.32	.9985
ULTRASONIC	212	266.7	14.1	1.26	27.33	.9560

FIG I-E SUBSYSTEM AVAILABILITIES

CONE SWAGE U/SOONIC

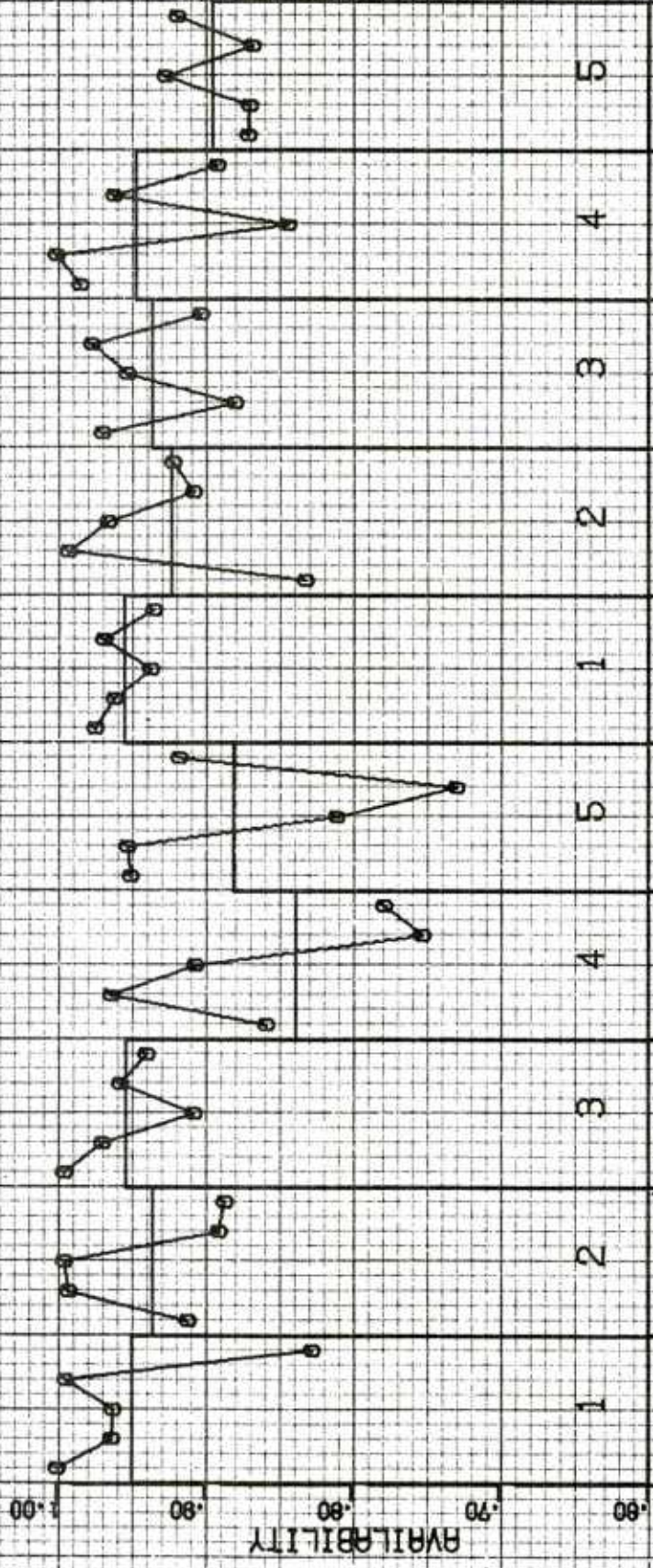


SUBSYSTEM AVAILABILITIES

FIG II-F

POWDER FEED

PELLET PRESS



MACHINE NUMBER

4. FUZE ASSEMBLY SYSTEMS

a. GENERAL

Fuze assembly equipment performance during the Prove-Out test is summarized in this section. Included are combined overall estimates of fuze assembly machine RAM characteristics and production rates for individual machines; a detailed analysis of downtimes; a fuze assembly machine subsystem RAM analysis; and a discussion of equipment RAM deficiencies and recommended corrective action. These analyses were facilitated by the assignment of failure codes to frequent and typical modes of failure. A list of definitions for the failure codes associated with the fuze assembly machines is also provided in this section.

b. FAILURE CODES

The definitions of failure codes established for the fuze assembly systems are listed in Table II-29. The codes categorize common causes of body loading system failure. The failure code 0, not defined in Table II-29, but which will be encountered in subsequent sections, refers to all non-coded failures, the frequencies of occurrence of which were not anticipated to be high when the codes were defined.

TABLE II-29 FAILURE CODES - FUZE ASSEMBLY

FAILURE CODE	FAILURE MODE	DEFINITION
01	No Body	Body placing station fails to place body on pallet.
02	No Fuze	Fuze placing station fails to place fuze on body.
03	Tape Fixture Placing	Tape fixture missing from pallet.
04	Eject Fail	Grenade eject station fails to place grenade on outfeed conveyor.
05	Body Present	Check to insure grenade still on pallet after winding of ribbon.
06	Tape Conveyor Low	Insufficient quantity of tape fixtures - conveyor shut off.
07	Body Conveyor Low	Insufficient quantity of bodies on infeed conveyor.
08	Tape Conveyor Off	Drive motor off.
09	Fuze Conveyor Off	Drive motor off.
10	Tape Fixture Removal Fail	2nd check for removal of tape fixture.
11	Winder Slide	Tape winder slide fails to return to normal position - requires adjustment.
12	Fuze Jam	Fuze jams in feed track or placement jaws fail to pick up fuze.
13	Air Jog	Manual operation to index machine.
14	Fallen Grenade	Overtured grenade on outfeed conveyor.
15	No Fuze After Stake	Fuze missing after staking operation.
16	Fuze Stake Malfunction	Station fails to stake fuze to grenade.
17	Grenade In Chain	Grenade falls off pallet before eject station.
18	Tape Fixture Retract	Tape fixture not removed from pallet after ribbon staking.
19	Body Conveyor Off	Drive motor off.
20	Tape Rivet Down	Tape staking head fails to return to normal position.
21	Tape Stripper Down	Tape stripper fails to return to normal position.
22	Fuze Stripper Down	Fuze stripper fails to return to normal position.
23	Electrical Interlock	No fuze on body or eject station fails to remove grenade.
24	Body Orientation	Studs not properly aligned to accept fuze or body not seated on pallet.
25	Fuze Lifting Device	Lifting device fails to place fuzes into feed station.
26	Fuze Conveyor Low	Insufficient quantity of fuzes in feed system.
27	Grenade Jam	Grenade jam on outfeed conveyor.
28	Tray-Untray Malfunction	Jam at traying station.
29	Body Pallet Problem	Nest damaged and grenade will not seat properly.

c. REMOVAL OF OUTLIERS

Computed estimates of MTTR and frequency of failure based on the available RAM data base for fuze assembly equipment and resultant critical values for each failure code are provided in Table II-30. The critical values provided are the basis upon which outlying repair data is identified.

TABLE II-30 FUZE ASSEMBLY SYSTEM OUTLIER CRITERIA

FAILURE CODE	FREQUENCY	MTTR	CRITICAL VALUE
1	570	.6093	4.2649
2	1524	.8214	5.7501
3	150	1.1059	5.5294
4	36	1.5176	7.5879
5	134	1.0096	7.0674
6	102	.4993	2.4967
7	92	.8092	4.0463
8	9	1.2593	3.7780
9	18	4.8852	24.4261
10	23	1.0957	5.4785
11	303	2.1117	14.7820
12	1291	1.4055	9.8385
13	15	1.7233	5.1700
14	268	.6086	4.2605
15	44	1.9655	9.8277
16	57	7.0465	35.2325
17	108	.9004	4.5022
18	796	.9499	6.6496
19	9	1.5259	4.5777
20	24	8.2569	41.2846
21	21	4.8150	24.0752
22	4	3.3000	9.9000
23	28	1.2470	6.2352
24	1145	.4402	3.0814
25	139	2.0781	10.3903
26	7	.5786	1.7357
27	232	.3325	2.3278
28	42	2.7591	13.7956
29	55	3.6500	18.2499

Each repair time was compared to the critical value corresponding to the code of the failure being corrected. If the repair time was greater than the critical value, only then was it identified as an outlier and not considered in subsequent analyses. Out of the total of 4131 stoppages which were considered equipment failures, only 76 repair times were found to satisfy the outlying criteria and were deleted. These outliers are provided in Table II-31.

TABLE II-31 OUTLYING DATA FOR FUZE ASSEMBLY SYSTEM

DATE	TIME OF DAY	REPAIR TIME	MACH NO.	FAILURE CODE
121377	0740	7.400	5E	24
121377	1110	35.000	5E	24
121377	1416	10.000	5E	2
121577	0755	45.000	5E	18
121577	1150	25.000	5E	18
120577	0835	10.000	7E	12
120677	0749	16.400	7E	5
120777	0730	10.000	7E	5
120777	0753	27.000	7E	2
120777	0843	4.683	7E	1
120777	1318	9.000	7E	4
120777	1424	16.000	7E	11
120877	1440	4.833	7E	1
120977	0757	88.000	7E	12
120977	0955	25.000	7E	12
120977	1114	39.000	7E	18
120977	1252	65.000	7E	11
121277	1152	3.000	5W	6
121277	1250	27.967	5W	18
121277	1346	4.600	5W	19
121277	1357	45.467	5W	9
121377	0814	21.200	5W	15
121377	0839	8.767	5W	2
121377	0907	12.400	5W	2
121377	0922	10.000	5W	2
121377	0952	8.883	5W	2
121377	1005	8.100	5W	2
121377	1043	13.117	5W	2
121377	1121	11.400	5W	2
121377	1415	8.433	5W	2
121377	1429	6.250	5W	2
121377	1438	15.933	5W	12
121577	0850	2.767	5W	6
121577	1017	58.317	5W	25
121577	1253	27.400	5W	28
012578	1017	6.617	5W	2
012578	1038	18.867	5W	1
012578	1107	17.533	5W	1
120677	1027	6.467	7W	10
120677	1313	5.617	7W	1

TABLE II-31 OUTLYING DATA FOR FUZE ASSEMBLY SYSTEM - CONTINUED

DATE	TIME OF DAY	REPAIR TIME	MACH NO.	FAILURE CODE
120677	1325	27.000	7W	12
120677	1352	4.350	7W	1
120677	1357	4.633	7W	1
120677	1408	5.817	7W	17
120677	1424	4.817	7W	17
120877	0730	38.000	7W	18
121377	1100	11.767	7W	12
120577	1038	60.283	8E	12
120777	0816	10.200	8E	12
120777	0957	10.100	8E	12
120977	0738	46.367	8E	24
120977	1124	103.000	8E	20
121277	1054	15.283	8E	12
121277	1132	80.000	8E	12
120577	0816	16.383	8W	12
120577	1303	9.467	8W	24
120577	1447	4.400	8W	7
120877	1116	23.017	8W	14
113077	1247	6.050	9E	2
121677	0757	26.883	9E	2
120177	0918	12.000	9W	12
120277	1139	13.100	9W	12
120277	1233	20.917	9W	12
120677	0856	9.250	9W	24
120677	1311	3.800	9W	8
121577	0806	3.217	9W	6
121577	1021	3.500	9W	24
120177	0958	16.283	10W	11
120177	1049	126.000	10W	12
120177	1413	23.467	10W	12
120177	1438	37.000	10W	12
120277	0727	22.817	10W	12

In addition to the outliers listed in Table II-32, 4 other stoppages originally scored as failures were deleted. Each of them was a non-coded (code 0) failure. These stoppages involved failures of machine components known to have relatively high reliability in terms of mean-time-between-failure. Inclusion of this data in subsequent analyses would have resulted in unrealistically low estimates of total RAM performance for the fuze assembly machines. The data relating to these downtimes is provided in Table II-32.

TABLE II-32 ADDITIONAL DATA DELETIONS

DATE	TIME OF DAY	REPAIR TIME	MACHINE NO.	FAILURE MODE
120777	0904	34.21	7E	MOTOR OVERLOAD
120777	1030	4.30	7E	MOTOR OVERLOAD
120777	1047	11.75	7E	CLUTCH FAILURE
120877	1230	60.0	7W	CLUTCH FAILURE

d. RAM AND PRODUCTION PERFORMANCE

A summary of the RAM data, resulting estimates of RAM characteristics, and production data for the ten fuze assembly systems observed during the LSAAP Prove-Out is provided in Table II-33. This table also includes a presentation of the combined data and estimates for the ten machines. Histograms of times-to-failure and times-to-repair based on the combined RAM data for all fuze assembly machines are provided in Figures II-G and II-H, respectively. Table II-34 provides a summary of the daily RAM performance for each of the fuze assembly machines. The table includes estimates of MTBF, MTR, and availability, as well as, the number of failures observed during each day.

The null hypothesis, that all ten fuze assembly machines are equivalent in terms of anticipated availability, was not rejected using a one-way analysis of variance at the .05 level of significance. As with the body loaders, daily availability estimates were assumed to follow a normal distribution. Graphical evidence of this conclusion is provided in Figure II-I.

Daily production from each fuze assembly system is summarized in Table II-35. It should be noted that the RAM and production data for the fuze assembly system was gathered over a four week period, observing two machines per week. As a result comparison of the observed production capability to required output per shift involves consideration of the average daily output of each machine as representative of its production capability. These averages are provided in Table II-35A.

TABLE II-35A AVERAGE DAILY OUTPUT OF FUZE ASSEMBLY MACHINES

MACHINE NO.	5E	5W	7E	7W	8E	8W	9E	9W	10E	10W
AVERAGE PRODUCTION	9240	6942	5658	8219	5644	8920	7868	7707	7932	8349

If the averages in this table are summed, a total expected production capability, for the eight fuze assembly machines, of 76579 grenades/shift results. The requirement of 60280 grenades/shift is easily exceeded.

In addition, Table II-35 provides the daily observed rates for each of the fuze assembly machines. On only 8 of the 50 machine-days observed was the design rate of 30 parts per minute met or exceeded. Only machines #5E and 5W consistently functioned at the design rate. The averaged observed rate, measured by the ratio of total grenades processed to total actual uptime for all ten machines, was found to be 27.3 grenades/minute.

Table II-36 summarizes the daily reject rate for the fuze assembly machines. When the volume of grenades produced by ten fuze assembly machines is considered, the reject rate appears excessive. On only 3 of 50 machine days was the reject rate below 2%, while 15 out of 50 machine days, the reject rate exceeded 5% with machine 8E exhibiting reject rates of 8% and 15%. The averaged reject rate for all 50 machine days was 3.78%.

TABLE II-33 FUZE ASSEMBLY MACHINE DATA

MACHINE NO	SCHED UPTIME	ACTUAL UPTIME	REPAIR TIME	MTBF	MTR	AVAIL	NO FAILURES	PRODUCTION QTY	REJECT QTY	OBSERVED RATE
5E	1859.3	1496.4	362.9	3.91	0.95	.805	383	46200	1379	30.9
5W	1602.2	1202.6	399.6	3.72	1.24	.751	323	28292	1521	23.5
7E	1576.6	1133.3	443.3	1.93	0.76	.719	587	34711	1573	30.6
7W	1793.8	1428.3	365.5	3.37	0.86	.796	424	41096	1271	28.8
8E	1588.8	1218.2	370.6	4.37	1.33	.767	279	28222	1791	23.2
8W	1904.7	1566.8	337.9	4.04	0.87	.823	388	44604	1330	28.5
9E	1887.7	1465.2	422.5	3.80	1.10	.776	386	39814	768	27.2
9W	1937.3	1392.2	545.1	2.17	0.85	.719	642	38536	1906	27.7
10E	1855.0	1645.0	210.0	6.58	0.84	.887	250	39663	1499	24.1
10W	1769.4	1494.	275.4	3.80	0.70	.844	393	41748	1442	27.9
SUMMARY	17774.8	14042.1	3732.8	3.46	0.92	.790	4055	382,886	14480	27.3

TABLE 11-34 DAILY FUZE ASSEMBLY MACHINE RAM RESULTS

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5							
	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL	NO. FAILURES	MTBF	MTRR	AVAIL				
5E	81	3.77	.86	.815	53	5.51	1.01	.845	79	4.17	.93	.817	83	3.15	.98	.762	87	3.54	.97	.784
5W	144	1.50	.53	.738	114	1.25	.98	.560	103	1.99	.97	.672	142	2.00	.74	.729	84	3.41	.59	.852
7E	77	3.93	1.31	.750	106	2.35	.95	.711	54	4.29	1.33	.763	50	6.55	1.05	.862	36	2.57	2.04	.557
7W	93	2.89	.84	.775	81	2.65	.99	.728	96	3.22	.85	.791	76	4.09	.82	.833	78	4.17	.81	.838
8E	41	6.82	1.29	.841	68	4.01	1.17	.775	46	2.39	2.47	.492	52	3.84	1.25	.755	72	4.94	.83	.856
8W	72	3.57	1.40	.718	82	3.98	.85	.824	81	4.23	.63	.870	74	4.35	.66	.868	79	4.04	.85	.826
9E	57	3.76	2.94	.562	62	5.01	.77	.867	79	4.15	.81	.837	75	4.25	.92	.823	113	2.59	.66	.797
9W	131	2.00	.95	.677	162	1.59	.72	.689	111	2.23	1.19	.652	139	2.35	.56	.809	99	3.01	.95	.760
10E	44	7.88	.73	.915	37	7.29	.79	.903	53	6.46	.79	.891	47	7.56	.95	.888	69	4.79	.90	.842
10W	91	3.69	.66	.848	65	5.27	.52	.911	55	2.76	1.39	.665	104	3.04	.57	.841	78	4.45	.59	.884

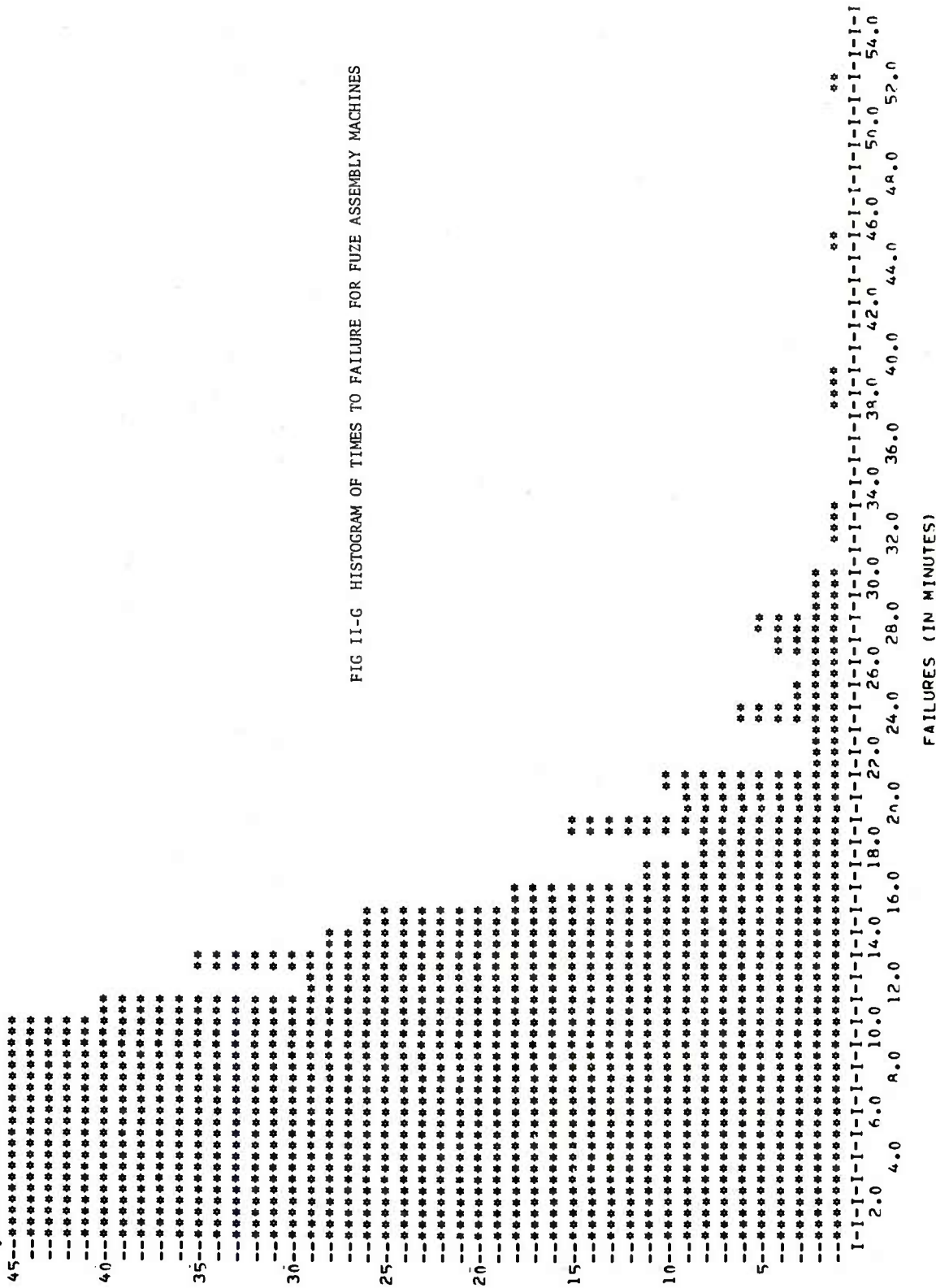


FIG II-G HISTOGRAM OF TIMES TO FAILURE FOR FUZE ASSEMBLY MACHINES

1876--**

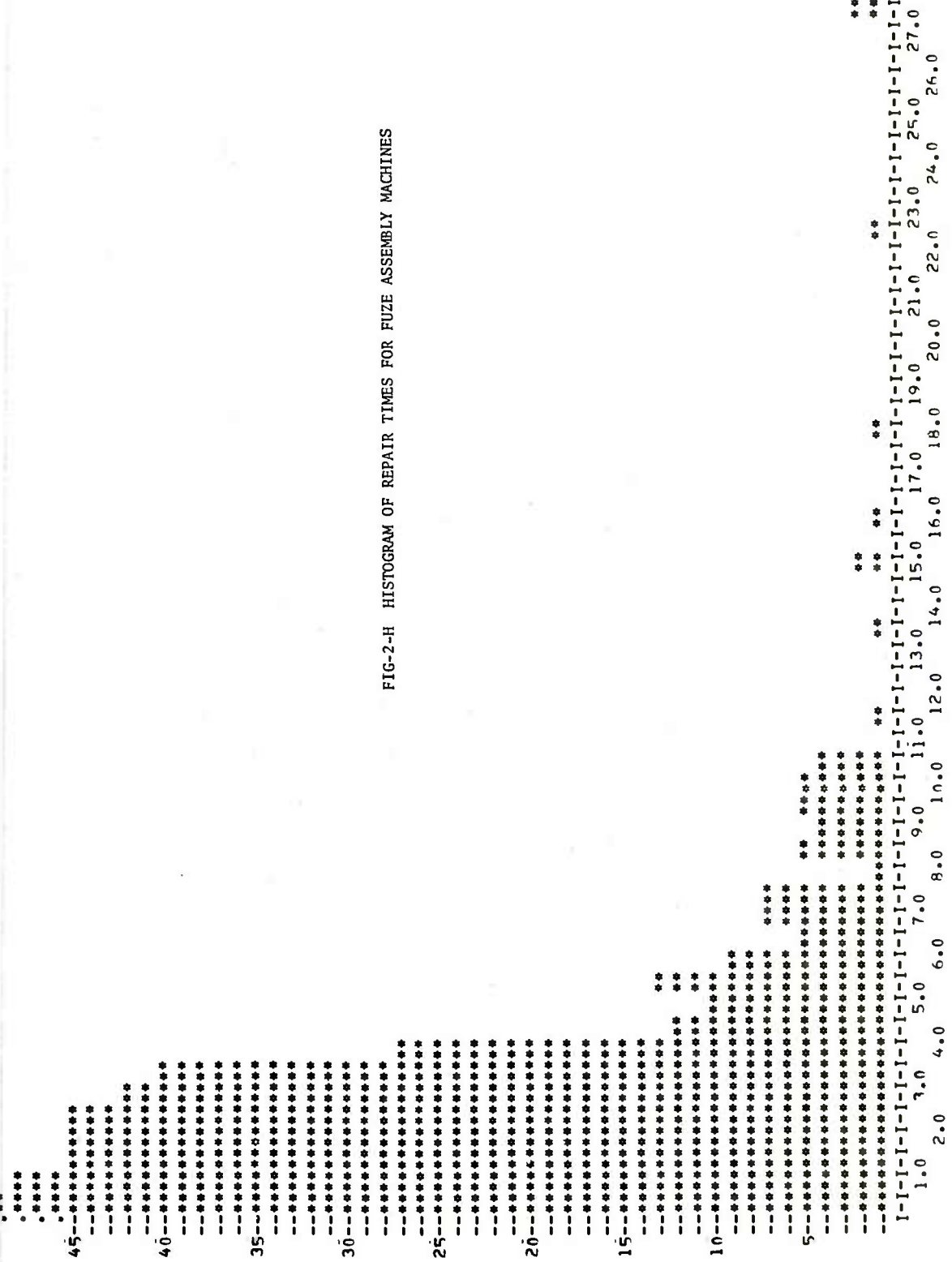


FIG-2-H HISTOGRAM OF REPAIR TIMES FOR FUZE ASSEMBLY MACHINES

FUZE ASSEMBLY MACHINE AVAILABILITIES

FIG II-1

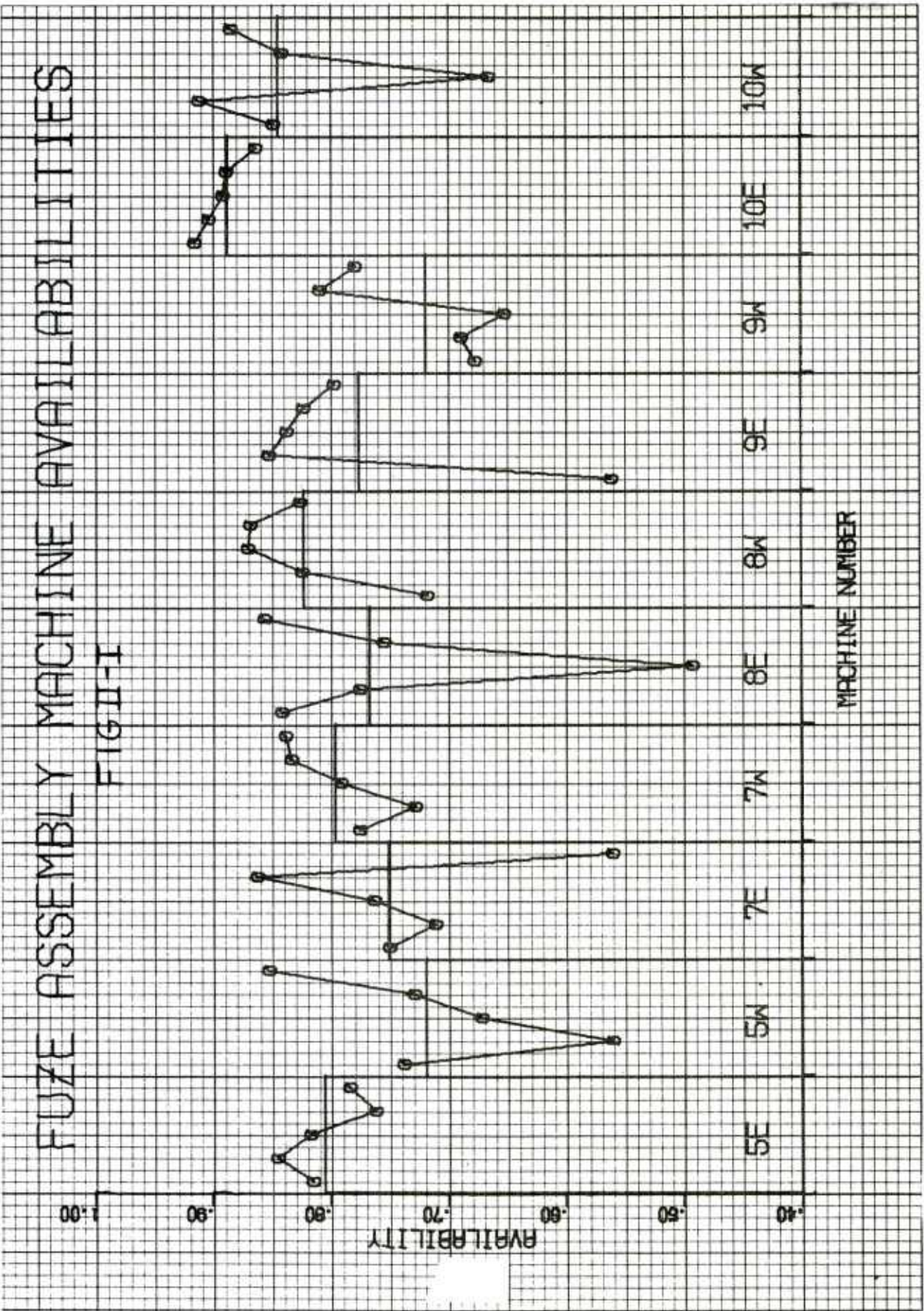


TABLE II-35
FUZE ASSEMBLY DAILY PRODUCTION

MACHINE NO.	DAY #1			DAY #2			DAY #3			DAY #4			DAY #5		
	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN	PRODUCTION QTY	REJECT QTY	RATE P/MIN
5E	9200	320	30.1	9500	291	32.5	10000	256	30.4	7500	256	28.7	10000	256	32.5
5W	6951	323	32.2	5000	192	35.1	6000	320	29.3	9105	319	32.1	7655	419	26.7
7E	7104	476	23.5	5440	346	21.9	5360	192	23.2	8400	384	25.6	1988	123	21.5
7W	7610	221	28.3	6500	154	30.3	9035	320	29.2	8850	320	28.5	9101	256	28.0
8E	6831	320	24.4	6100	320	22.3	2010	320	18.3	6144	511	30.8	7137	320	20.1
8W	7304	367	28.4	9300	228	28.5	9800	320	28.6	9100	192	28.3	9100	223	28.5
9E	5501	64	25.7	8504	128	27.4	9124	128	27.8	8815	192	27.6	7870	256	26.9
9W	7300	384	27.9	6600	320	25.6	6500	370	26.2	9450	320	28.9	8686	512	29.1
10E	9216	192	26.6	7655	269	28.4	6144	140	18.0	9300	512	26.2	7348	386	22.2
10W	9250	384	27.5	10124	320	29.6	3510	192	23.1	9264	226	29.3	9600	320	27.6

TABLE II-36 DAILY FUZE ASSEMBLY PERCENT REJECTS

MACHINE NO.	DAY #1 % REJECT	DAY #2 % REJECT	DAY #3 % REJECT	DAY #4 % REJECT	DAY #5 % REJECT
5E	3.47	3.06	2.56	3.41	2.56
5W	4.65	3.84	5.33	3.50	5.47
7E	6.70	6.36	3.58	4.57	6.19
7W	2.90	2.37	3.54	3.62	2.81
8E	4.68	5.25	15.92	8.32	4.48
8W	5.02	2.45	3.27	2.11	2.45
9E	1.16	1.51	1.40	2.18	3.25
9W	5.26	4.85	5.69	3.39	5.89
10E	2.08	3.51	2.28	5.51	5.01
10W	4.15	3.16	5.47	2.44	3.33

The daily observed net rate of production for each fuze assembly machine is provided in Table II-37. These results offer a concise measure of machine capability, taking into simultaneous consideration production rate, RAM characteristics, and reject rate. Under the assumption that net rates follow an approximately normal distribution, the results in Table II-37 were used to compare the fuze assembly systems on the basis of net rate. Based on a one-way analysis of variance, the null hypothesis that the ten systems are equivalent was rejected at the .05 level of significance. Further examination of this difference using a multiple comparison test on the machine average net rates verified that 8 of the 10 machines were equivalent in terms of net rate, while the major contribution to statistical significance was the erratic performance of machines 7E and 8E which exhibited net rates of 11.2 and 7.6 parts/min on two particular days.

TABLE II-37 FUZE ASSEMBLY MACHINE NET RATE

MACHINE NO.	DAILY NET RATE (PARTS/MIN)					AVERAGE
	DAY #1	DAY #2	DAY #3	DAY #4	DAY #5	
5E	23.7	26.7	24.2	21.1	24.8	24.1
5W	22.7	18.9	18.7	22.6	21.5	21.0
7E	16.5	14.6	17.0	21.1	11.2	16.7
7W	21.3	21.5	22.3	22.9	22.8	22.0
8E	19.6	16.4	7.6	21.3	16.4	16.7
8W	19.4	22.9	24.1	24.0	23.0	22.7
9E	14.2	23.4	23.0	22.2	20.7	20.7
9W	17.9	16.8	16.1	22.6	20.8	18.9
10E	23.8	24.7	15.6	22.0	17.7	20.6
10W	22.4	26.1	14.5	24.0	23.6	22.8

e. DOWNTIME ANALYSIS

The fuze assembly Prove-Out data was analyzed by failure codes for each machine and summarized for all machines to pinpoint equipment deficiencies so that improvements can be considered on present equipment and instituted for future procurements. Tables II-38A to II-38J contain a breakdown of the data by failure code for the Johnathan machines. Table II-39 summarizes the downtime by failure code for the Connally machine. The combined summary of data by failure code for the Johnathan machines appears in Table II-40.

TABLE II-38A DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION SE	3R3	362.8R3	.947
0 NON-CODED FAILURES	4	17.300	4.325
1 NO BODY	54	27.550	.510
2 NO FUZE	115	106.417	.925
3 TAPE FIXTURE PLACING	10	12.950	1.295
4 EJECT FAIL	2	1.833	.917
5 BODY PRESFNT	9	7.200	.800
7 BODY CONVEYOR LOW	4	4.450	1.113
8 TAPE CONVEYOR OFF	2	.767	.383
9 FUZE CONVEYOR OFF	5	5.483	1.097
10 TAPE FIXTURE REMOVAL FAIL	6	4.750	.792
11 WINDER SLIDE OUT	22	16.567	.753
12 FUZE JAM	21	32.500	1.548
14 FALLEN GRENADE	8	6.833	.854
15 NO FUZE AFTER STAKE	2	2.033	1.017
16 FUZE STAKE MALFUNCTION	1	10.400	10.400
17 GRENADE IN CHAIN	2	1.400	.700
18 TAPE FIXTURE RETRACT	94	66.900	.712
19 BODY CONVEYOR OFF	1	.733	.733
24 BODY ORIENTATION	4	3.767	.942
25 FUZE LIFTING DEVICE	17	33.050	1.944

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
FIXT BELT OVERLOADED	2.53
CLEANING STATION	10.00
CHANGE OUT A STATION	.77
OVERLOAD ON FIXT BELT	4.00

TABLE II-38B DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION SW	587	443.333	.755
0 NON-CODED FAILURES	7	20.300	2.900
1 NO BODY	82	38.417	.468
2 NO FUZE	179	131.717	.736
3 TAPE FIXTURE PLACING	1	.400	.400
5 BODY PRESENT	3	2.450	.817
6 TAPE CONVEYOR LOW	36	11.617	.323
7 BODY CONVEYOR LOW	7	6.050	.864
8 TAPE CONVEYOR OFF	2	.617	.308
9 FUZE CONVEYOR OFF	2	2.250	1.125
10 TAPE FIXTURE REMOVAL FAIL	2	1.250	.625
11 WINDER SLIDE OUT	42	39.167	.933
12 FUZE JAM	46	61.117	1.329
14 FALLEN GRENADE	46	17.267	.375
15 NO FUZE AFTER STAKE	5	3.317	.663
17 GRENADE IN CHAIN	2	.683	.342
18 TAPE FIXTURE RETRACT	90	54.517	.606
23 ELECTRICAL INTERLOCK	21	23.967	1.141
24 BODY ORIENTATION	1	.333	.333
25 FUZE LIFTING DEVICE	6	12.217	2.036
28 TRAY-UNTRAY MALFUNCTION	1	4.883	4.883
29 BODY PALLET PROBLEM	6	10.800	1.800

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
PUT RIBBON ON TAPE FIXT	1.27
REMOVE RIBBONS FROM CONV BELT	1.22
FUZE HUNG IN CONV BELT	1.28
RFPLACED JET RLOCK	7.25
FUZE JAMMED IN TAPE CONV	5.72
CLEANED A STATION	1.25
ADJUSTED AIR CAN	2.32

TABLE II-38C DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 7E	323	399.600	1.237
0 NON-CODED FAILURES	2	7.633	3.817
1 NO BODY	26	15.450	.594
2 NO FUZE	137	123.983	.905
3 TAPE FIXTURE PLACING	12	8.717	.726
4 EJECT FAIL	1	2.250	2.250
5 BODY PRESENT	32	45.400	1.419
7 BODY CONVEYOR LOW	20	13.767	.688
11 WINDER SLIDE OUT	14	37.083	2.649
12 FUZE JAM	7	6.783	.969
14 FALLEN GRENADE	20	12.300	.615
15 NO FUZE AFTER STAKE	2	3.767	1.883
16 FUZE STAKE MALFUNCTION	7	68.867	9.838
17 GRENADE IN CHAIN	13	13.250	1.019
18 TAPE FIXTURE RETRACT	22	27.017	1.228
19 BODY CONVEYOR OFF	1	2.117	2.117
24 BODY ORIENTATION	1	2.750	2.750
25 FUZE LIFTING DEVICE	3	5.317	1.772
28 TRAY-UNTRAY MALFUNCTION	1	1.133	1.133
29 BODY PALLET PROBLEM	2	2.017	1.008

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
RFMOVE WASHER FROM SHOT PIN	2.62
RFPLACE	5.02

TABLE II-38D DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUNFCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 7W	424	365.517	.862
1 NO BODY	98	56.300	.574
2 NO FUZE	114	97.233	.853
3 TAPE FIXTURE PLACING	13	15.617	1.201
5 BODY PRESENT	23	15.350	.667
7 BODY CONVFYOR LOW	6	6.367	1.061
8 TAPE CONVFYOR OFF	1	1.367	1.367
9 FUZE CONVFYOR OFF	3	6.417	2.139
10 TAPE FIXTURE REMOVAL FAIL	1	.333	.333
12 FUZE JAM	37	62.383	1.686
14 FALLEN GRENADE	34	20.517	.603
15 NO FUZE AFTER STAKE	19	26.700	1.405
17 GRENADE IN CHAIN	14	13.650	.975
18 TAPE FIXTURE RETRACT	59	41.983	.712
19 BODY CONVFYOR OFF	1	.567	.567
27 GRENADE JAM	1	.733	.733

TABLE II-38E DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 8E	279	370.617	1.328
0 NON-CODED FAILURES	2	2.333	1.167
1 NO BODY	20	8.067	.403
2 NO FUZE	26	24.983	.961
3 TAPE FIXTURE PLACING	10	14.233	1.423
4 EJECT FAIL	2	8.100	4.050
5 BODY PRESENT	1	.750	.750
6 TAPE CONVEYOR LOW	1	.533	.533
7 BODY CONVEYOR LOW	1	1.400	1.400
11 WINDER SLIDE OUT	9	20.150	2.239
12 FUZE JAM	89	120.267	1.351
14 FALLEN GRENADE	13	8.667	.667
16 FUZE STAKF MALFUNCTION	1	8.433	8.433
17 GRENADE IN CHAIN	1	.283	.283
18 TAPE FIXTURE RETRACT	47	29.667	.631
19 BODY CONVEYOR OFF	1	.400	.400
20 TAPE RIVET DOWN	13	75.450	5.804
21 TAPE STRIPPER DOWN	1	10.000	10.000
24 BODY ORIENTATION	34	26.450	.778
25 FUZE LIFTING DEVICE	7	10.450	1.493

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
STOP FOR PRODUCTION	.53
STOP FOR PRODUCTION	1.80

TABLE II-38F DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION RW	3RR	337.8R3	.871
0 NON-CODED FAILURES	1	10.133	10.133
1 NO BODY	31	17.467	.563
2 NO FUZE	110	66.350	.603
5 BODY PRESENT	26	20.933	.805
6 TAPE CONVEYOR LOW	10	4.650	.465
7 BODY CONVEYOR LOW	6	6.967	1.161
10 TAPE FIXTURE REMOVAL FAIL	1	.917	.917
11 WINDER SLIDE OUT	18	17.867	.993
12 FUZE JAM	15	18.783	1.252
14 FALLEN GRENADE	54	28.350	.525
15 NO FUZE AFTER STAKE	4	17.517	4.379
16 FUZE STAKE MALFUNCTION	8	53.300	6.663
17 GRENADE IN CHAIN	53	30.183	.569
18 TAPE FIXTURE RETRACT	37	27.783	.751
19 BODY CONVEYOR OFF	3	3.183	1.061
23 ELECTRICAL INTERLOCK	1	2.817	2.817
24 BODY ORIENTATION	4	2.100	.525
25 FUZE LIFTING DEVICE	3	5.633	1.878
29 BODY PALLET PROBLEM	3	2.950	.983

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
WORKING ON GREN CONV BELT	10.13

TABLE II-38G DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 9E	386	422.517	1.095
0 NON-CODED FAILURES	5	128.817	25.763
1 NO BODY	146	72.750	.498
2 NO FUZE	102	92.633	.908
3 TAPE FIXTURE PLACING	5	3.983	.797
5 BODY PRESENT	25	13.300	.532
6 TAPE CONVEYOR LOW	1	.283	.283
10 TAPE FIXTURE REMOVAL FAIL	2	1.450	.725
11 WINDER SLIDE OUT	5	26.033	5.207
12 FUZE JAM	22	17.967	.817
14 FALLEN GRENADE	10	4.917	.492
15 NO FUZE AFTER STAKE	1	.500	.500
16 FUZE STAKE MALFUNCTION	2	11.917	5.958
18 TAPE FIXTURE RETRACT	38	21.083	.555
21 TAPE STRIPPER DOWN	1	2.533	2.533
24 BODY ORIENTATION	11	5.817	.529
25 FUZE LIFTING DEVICE	8	7.450	.931
28 TRAY-UNTRAY MALFUNCTION	1	10.000	10.000
29 BODY PALLFT PROBLEM	1	1.083	1.083

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
REPAIR BODY CONVEYOR	5.10
REPAIR BODY CONVEYOR	9.50
REPAIR BODY CONVEYOR BELT	111.00
REPAIR BODY CONV BELT	2.10
REPLACED LIGHT	1.12

TABLE II-38H DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 9W	642	545.100	.849
0 NON-CODED FAILURES	4	11.300	2.825
1 NO BODY	31	14.567	.470
2 NO FUZE	241	145.967	.606
3 TAPE FIXTURE PLACING	8	7.133	.892
4 EJECT FAIL	4	2.983	.746
5 BODY PRESENT	11	12.350	1.123
6 TAPE CONVEYOR LOW	30	16.250	.542
7 BODY CONVFYOR LOW	21	14.233	.678
8 TAPE CONVFYOR OFF	1	2.583	2.583
9 FUZE CONVFYOR OFF	6	26.850	4.475
10 TAPE FIXTURE REMOVAL FAIL	8	6.367	.796
11 WINDER SLIDE OUT	41	28.867	.704
12 FUZE JAM	59	87.267	1.479
13 AIR JOG	12	20.133	1.678
14 FALLEN GRENADE	39	20.950	.537
16 FUZE STAKE MALFUNCTION	3	25.867	8.622
17 GRENADE IN CHAIN	2	1.033	.517
18 TAPE FIXTURE RETRACT	102	60.867	.597
19 BODY CONVFYOR OFF	1	2.133	2.133
20 TAPE RIVET DOWN	9	10.833	1.204
22 FUZE STRIPPER DOWN	2	11.983	5.992
24 BODY ORIENTATION	1	2.250	2.250
25 FUZE LIFTING DEVICE	6	12.333	2.056

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
HUNG DIE CENTER	2.48
HANG UP ON DIE CENTER	2.17
HUNG DIE CENTER	1.33
MFCANICAL FAILURE	5.32

TABLE II-38I DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 10E	250	209.983	.840
0 NON-CODED FAILURES	2	5.633	2.817
1 NO BODY	26	13.017	.501
2 NO FUZE	84	64.283	.765
3 TAPE FIXTURE PLACING	3	2.800	.933
4 EJECT FAIL	2	2.067	1.033
5 BODY PRESENT	2	.683	.342
6 TAPE CONVEYOR LOW	1	.400	.400
7 BODY CONVFYOR LOW	1	.500	.500
12 FUZE JAM	40	45.683	1.142
14 FALLEN GRENADE	3	.983	.328
15 NO FUZE AFTER STAKE	1	1.283	1.283
17 GRENADE IN CHAIN	1	.383	.383
18 TAPE FIXTURE RETRACT	11	6.500	.591
22 FUZE STRIPPER DOWN	2	1.217	.608
24 BODY ORIENTATION	53	26.867	.507
25 FUZE LIFTING DEVICE	11	28.917	2.629
26 FUZE CONVFYOR LOW	2	1.417	.708
28 TRAY-UNTRAY MALFUNCTION	1	1.417	1.417
29 BODY PALLET PROBLEM	4	5.933	1.483

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
LOOSE MAGNET	3.75
CLEAN OF STATION	1.88

TABLE II-38J DOWNTIME ANALYSIS OF JOHNATHAN ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZE ASSEMBLY STATION 10W	393	275.317	.701
0 NON-CODED FAILURES	1	.333	.333
1 NO BODY	46	16.783	.365
2 NO FUZE	102	58.300	.572
3 TAPE FIXTURE PLACING	10	9.533	.953
5 BODY PRESENT	1	.333	.333
6 TAPE CONVEYOR LOW	17	6.600	.388
7 BODY CONVEYOR LOW	19	12.450	.655
8 TAPE CONVEYOR OFF	1	1.800	1.800
10 TAPE FIXTURE REMOVAL FAIL	2	3.667	1.833
11 WINDER SLIDE OUT	3	2.633	.878
12 FUZE JAM	35	62.450	1.784
14 FALLEN GRENADE	33	12.900	.391
15 NO FUZE AFTER STAKE	1	1.717	1.717
16 FUZE STAKE MALFUNCTION	1	14.800	14.800
17 GRENADE IN CHAIN	2	1.083	.542
18 TAPE FIXTURE RETRACT	95	51.867	.546
23 ELECTRICAL INTERLOCK	3	3.350	1.117
25 FUZE LIFTING DEVICE	15	11.000	.733
26 FUZE CONVEYOR LOW	5	2.633	.527
29 BODY PALLFT PROBLEM	1	1.083	1.083

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
DROP RIBBON ON BELT	.33

TABLE II-39 DOWNTIME ANALYSIS OF CONNALLY ASSY MACHINE

STATION/CODE	FREQUENCY	TOTAL TIME	AVERAGE TIME
FUZF ASSEMBLY STATION 3E	151	151.817	1.005
0 NON-CODED FAILURFS	8	10.900	1.363
1 NO BODY	11	6.183	.562
2 NO FUZF	89	75.100	.844
3 TAPE FIXTURE PLACING	4	2.383	.596
10 TAPE FIXTURE REMOVAL FAIL	5	3.233	.647
11 WINDER SLIDE OUT	6	15.967	2.661
14 FALLEN GRFNADE	1	.133	.133
18 TAPE FIXTURE RETRACT	26	25.367	.976
29 BODY PALLFT PROBLEM	1	12.550	12.550

NON-CODED FAILURES

DESCRIPTION	REPAIR TIME
MACHINE OUT OF TIME	1.68
FIXTURE JAMMED ON BELT	.22
MACHINE OUT OF TIME	2.15
MACHINE OUT OF TIME	2.27
FIXTURE JAMMED ON CNVR BFLT	.80
MACHINE OUT OF TIME	1.37
MACHINE OUT OF TIME	1.80
FIXTURES WERE HUNG UPON CONVFYOR	.62

TABLE II-40 FUZE ASSEMBLY DOWNTIME SUMMARY

<u>CODE</u>	<u>FAILURE MODE</u>	<u>FREQUENCY</u>	<u>TIME</u>
0	NON-CODED FAILURES	28	203.782
1	NO BODY	560	280.368
2	NO FUZE	1210	911.866
3	TAPE FIXTURE PLACING	72	75.366
4	EJECT FAIL	11	17.233
5	BODY PRESENT	133	118.749
6	TAPE CONVEYOR LOW	96	40.333
7	BODY CONVEYOR LOW	85	66.184
8	TAPE CONVEYOR OFF	7	7.134
9	FUZE CONVEYOR OFF	16	41.000
10	TAPE FIXTURE REMOVAL FAIL	22	18.734
11	WINDER SLIDE OUT	154	188.367
12	FUZE JAM	371	515.200
13	AIR JOG	12	20.133
14	FALLEN GRENADE	260	133.684
15	NO FUZE AFTER STAKE	35	56.834
16	FUZE STAKE MALFUNCTION	23	193.584
17	GRENADE IN CHAIN	90	61.948
18	TAPE FIXTURE RETRACT	595	388.184
19	BODY CONVEYOR OFF	8	9.133
20	TAPE RIVET DOWN	22	86.283
21	TAPE STRIPPER DOWN	2	12.533
22	FUZE STRIPPER DOWN	4	13.200
23	ELECTRICAL INTERLOCK	25	30.134
24	BODY ORIENTATION	109	70.334
25	FUZE LIFTING DEVICE	76	126.367
26	FUZE CONVEYOR LOW	7	4.050
27	GRENADE JAM	1	.733
28	TRAY-UNTRAY MALFUNCTION	4	17.433
29	BODY PALLET PROBLEM	17	23.866

TOTAL FAILURES = 4055

TOTAL DOWNTIME = 3732.80

There are six major problem areas highlighted as a result of this analysis which account for 72.7% of the total downtime. They are presented in Table II-41.

TABLE II-41 FUZE ASSEMBLY RAM PROBLEM AREAS

FAILURE MODE	CODE	FREQUENCY	TIME	% DOWNTIME
NO BODY	1,24	669	350.7	9.40
NO FUZE	2	1210	911.9	24.40
FUZE FEED	9,12,25	463	682.6	18.30
RIBBON WINDER	11	154	188.4	5.00
FUZE STAKE	16	23	193.6	5.20
TAPE FIXTURE	18	595	388.2	10.40
SUBTOTAL	-	3114	2715.4	72.70
OTHER CAUSES	-	941	1016.8	27.30
TOTAL	-	4055	3732.2	100.0

In addition to representing 72.7% of the downtime, these areas also represent approximately 77% of the total failures. The biggest single problem with the fuze assembly machines (42.7%) is feeding the fuze to the placing station which, in turn, rotates the fuze 90° and places it on the grenade body. Improvement in this area would result in a significant increase in the availability of the fuze assembly machines. This increase in availability would result in a more efficient operation through reduced maintenance times.

Data was also collected on machine #3E which is a Connally fuze assembly machine. The difference between a Johnathan and a Connally machine is the fuze feed system. In the Johnathan system the fuzes are automatically inspected and fed to the fuze placing station while the Connally utilizes manual inspection and feed. The purpose of collecting data on this machine was to determine if the performance of one type of machine differed significantly from the other type. During two shifts of machine operation, and excluding outliers, this fuze assembly machine exhibited 151 unscheduled stoppages for a total of 152 minutes of downtime. 89 of these stoppages totaling 75 minutes, or approximately 50% of the downtime, are attributed to failure Code 02, no fuze. Since the fuze placing heads are identical on both systems, and the fuze feed tracks are virtually identical from the gaging station on, it would appear that there is little advantage in eliminating the automatic gaging and feeding of the fuze to the placing station. Also most of the fuze feed jam problems occurred with the fuze jamming in the feed tracks rather than at the fuze gaging station. Investigation of a possible redesign of the fuze feed and placement system should be performed prior to additional procurement of this type of equipment.

f. SUBSYSTEM RAM ANALYSIS

The Fuze Assembly System is comprised of three separate machines or subsystems. They are:

- (1) Fuze Inspection and Feed
- (2) Tray-Untray
- (3) Fuze/Grenade/Tape Assembly

Table II-42 contains RAM data and estimates by subsystem for each fuze assembly machine individually. The subsystem availabilities in this table and in Table II-43 were calculated in the same way as those for the body loaders in section II.2.f. A graphical depiction of daily variability in subsystem availabilities is provided in Figures II-J and II-K for the Fuze-Feed and Fuze-Tape subsystems. Although the details are not provided herein, the daily subsystem availabilities were subjected to one-way analyses of variance to compare subsystems between fuze assembly machines.

Slight significant differences were found for the fuze-feed and fuze-tape subsystems. The slight difference for the fuze-tape subsystem was primarily due to one machine, 10E, having five good days and an average availability of 0.93 while four machines, 5W, 7E, 8E, and 9E each exhibited one day with an availability between 0.5 and 0.6. The slight significant difference between the fuze feed subsystems of the ten machines was due to eight of the ten machines exhibiting an average availability of 0.94 or higher while machines 8E and 9W exhibited availabilities of 0.905 and 0.92. As a result of these findings, it is reasonable to combine, as a measure of average performance, the subsystem RAM data for all ten fuze assembly machines. The combined data and estimates are provided in Table II-43.

TABLE II-43 FUZE ASSEMBLY SUBSYSTEM COMBINED RAM RESULTS

SUBSYSTEM	FREQ	DOWNTIME	& DOWNTIME	MTTR	MTBF	AVAIL
FUZE FEED	470	686.6	18.4	1.46	29.9	0.953
TRAY UNTRAY	4	17.4	0.5	4.36	3510.5	0.999
FUZE TAPE	3581	3028.2	81.1	0.85	3.9	0.822

TABLE II-42 FUZE ASSEMBLY SUBSYSTEM RAM RESULTS 8Y SYSTEM

MACHINE/SUBSYSTEM	NO. FAILURES	TOTAL TIME	DOWNTIME	AVAIL	MTR	MTRF
FUZE-FEED	43	1567.5	71.0	.955	1.65	34.80
5E TRAY-UNTRAY	0	1496.5	0.0	1.000	-	-
FUZE-TAPE	340	1788.3	291.9	.837	.86	4.40
FUZE-FEED	54	1708.8	75.6	.937	1.40	20.99
5W TRAY-UNTRAY	1	1138.1	4.9	.996	4.88	1133.33
FUZE-TAPE	532	1496.1	362.9	.757	.68	2.13
FUZE-FEED	10	1214.7	12.1	.990	1.21	120.26
7E TRAY-UNTRAY	1	1203.7	1.1	.999	1.13	1202.55
FUZE-TAPE	310	1588.9	386.4	.757	1.24	3.85
FUZE-FEED	40	1497.1	68.8	.954	1.72	35.71
7W TRAY-UNTRAY	0	1428.3	0.0	1.000	-	-
FUZE-TAPE	384	1725.0	296.7	.773	.77	3.72
FUZE-FEED	96	1348.9	130.7	.903	1.36	12.69
8E TRAY-UNTRAY	0	1218.2	0.0	1.000	-	-
FUZE-TAPE	183	1458.1	239.9	.835	1.31	6.66
FUZE-FEED	18	1591.3	24.4	.985	1.36	87.05
8W TRAY-UNTRAY	0	1566.9	0.0	1.000	-	-
FUZE-TAPE	370	1880.3	313.5	.833	.85	4.24
FUZE-FEED	30	1490.6	25.4	.983	.85	48.84
9E TRAY-UNTRAY	1	1475.1	10.0	.993	10.00	1465.13
FUZE-TAPE	355	1852.2	387.1	.791	1.09	4.13
FUZE-FEED	71	1518.7	126.5	.917	1.78	19.61
9W TRAY-UNTRAY	0	1392.2	0.0	1.000	-	-
FUZE-TAPE	571	1810.9	418.7	.769	.73	2.45
FUZE-FEED	53	1721.0	76.0	.956	1.43	31.04
10E TRAY-UNTRAY	1	1646.4	1.4	.999	1.42	1645.02
FUZE-TAPE	193	1777.6	132.6	.925	.68	8.59
FUZE-FEED	55	1570.2	76.1	.952	1.38	27.17
10W TRAY-UNTRAY	0	1494.1	0.0	1.000	-	-
FUZE-TAPE	338	1693.4	199.2	.882	.59	4.42

FIG II-7 FUZE FEED SUBSYSTEM AVAILABILITIES

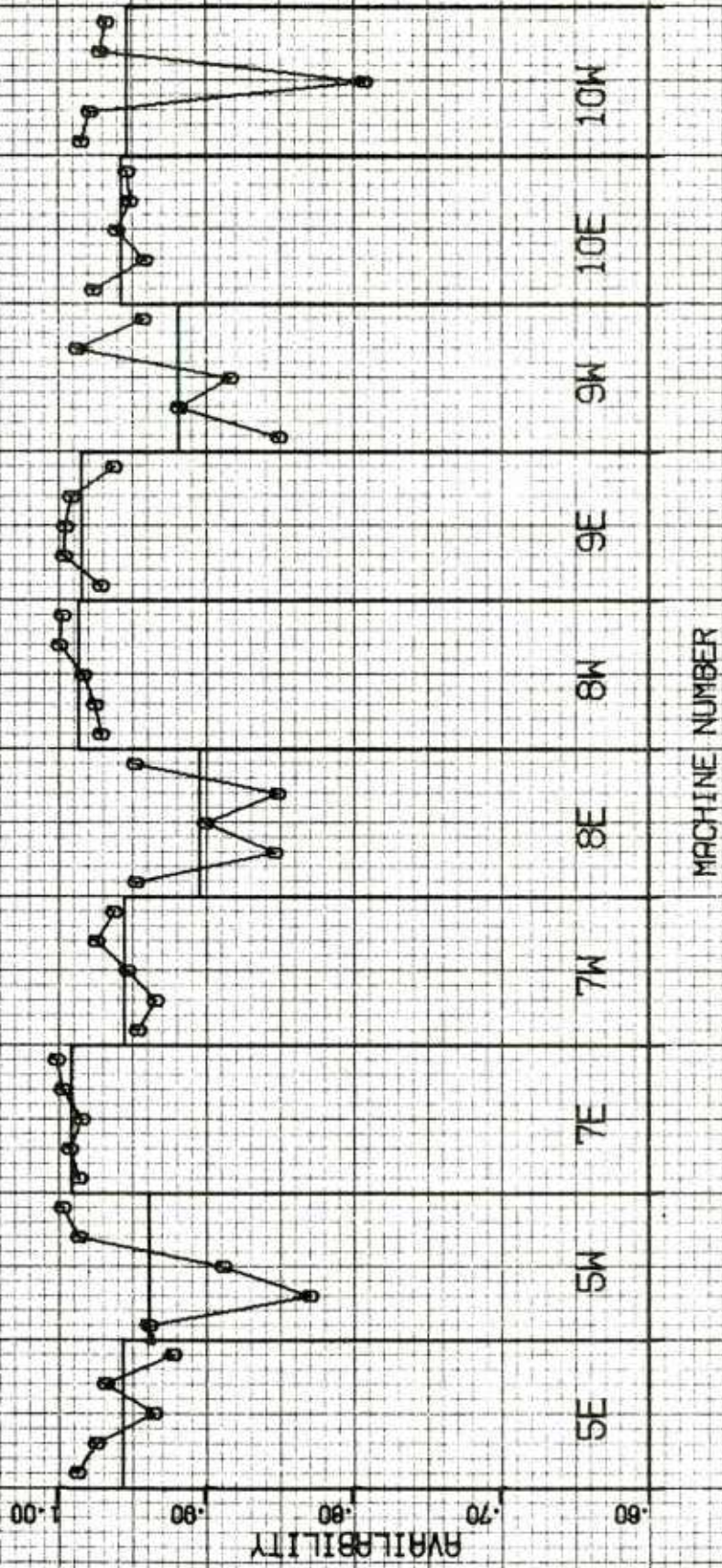
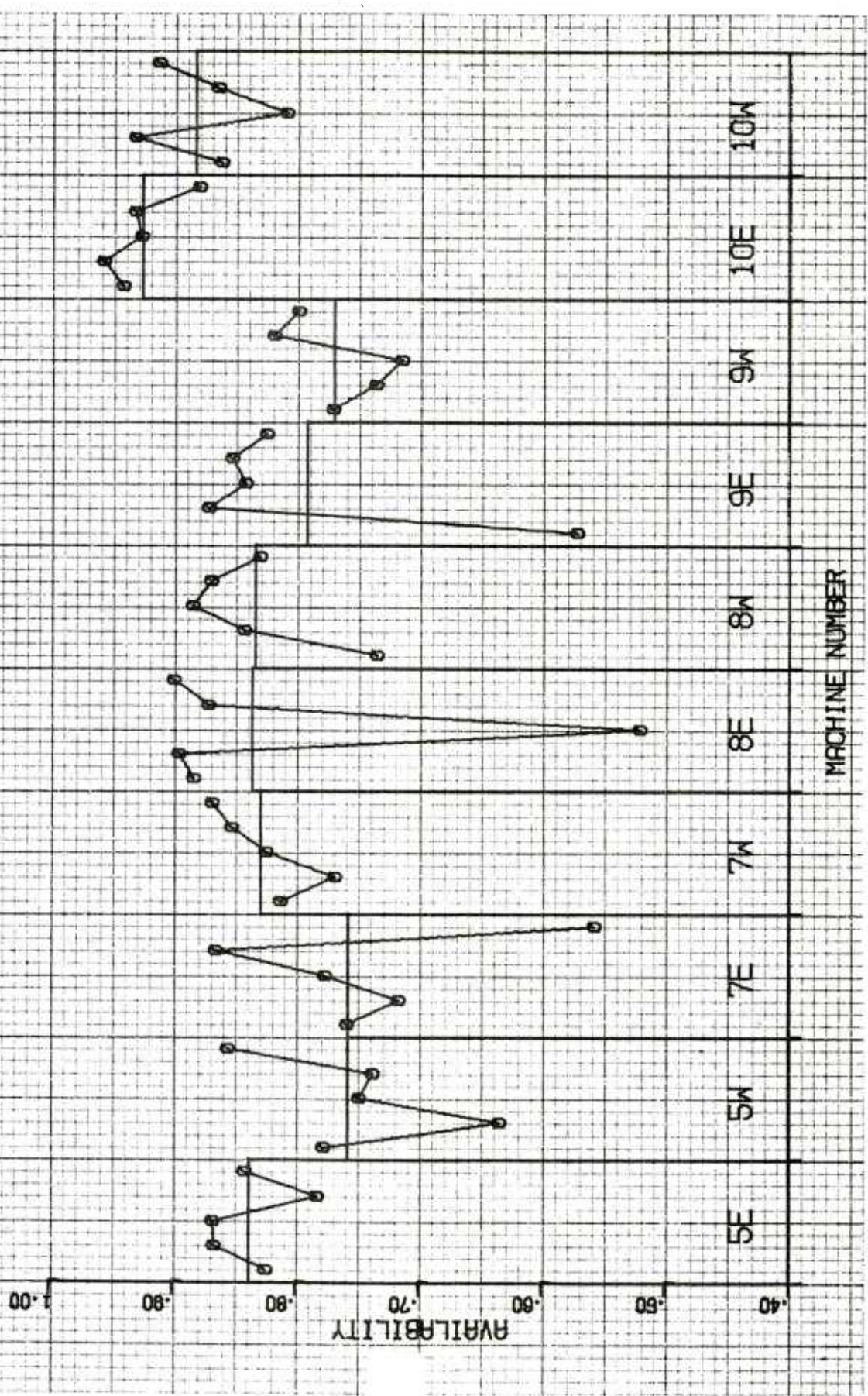


FIG II-K FUZE TAPE SUBSYSTEM AVAILABILITIES



5. FINAL ASSEMBLY/PACK-OUT SYSTEM

This section summarizes the projectile loading, assembly, and pack-out equipment performance during the demonstration test. This system at LSAAP is comprised of two identical lines, referred to as the East Line and West Line, both of which are located in the same building and comprised of the same quantity and type of serially arranged equipment. The data for this system was collected over a total period of ten days, with data collected on each line for five days. The presence of some degree of buffering between stations precluded the use of the product of the individual machine availability estimates, based on the observed RAM data, as accurate estimates of overall line availability for each line. These values do, however, provide estimates of lower bounds on the line availabilities. The RAM performance of the individual machines making up the East Line and West Line is summarized in Tables II-44 and II-45, respectively. The bottom line of each table provides the overall line results. The lower bound on line availability is computed using:

$$A_{\text{line}} \geq \prod_{i=1}^n A_i = A_1 \times A_2 \times \dots \times A_n$$

where the A_i 's are the individual machine availability estimates.

One recurring problem observed during the demonstration test involved the transfer systems. There were a total of 36 stoppages recorded for both lines with an accumulated downtime of 121 minutes. These stoppages were due to an insufficient quantity of transfer pallets on the lines. Addition of more pallets to the conveyor, drill and pin, and pack-out transfer systems would eliminate this problem. The system availability would increase approximately 2%-4% while the overall net rate would increase from 2.67 projectiles/minute to 2.75 projectiles/minute.

A summary of the daily production output of each line is contained in Table II-46. This table also provides the scheduled uptime for each day and resultant estimates of daily net rates of production. Data for all ten days is provided for both lines even though RAM data was gathered on only five days for each line. Since a precise value of scheduled uptime on a particular day was provided only for the line for which RAM data was being collected, it was assumed that the scheduled uptime for the other line was the same. Table II-46 also provides overall estimates of net rate for each line and a resultant estimate of system net rate based on the combined output of both lines.

Since the system must eventually be capable of producing both M483 and M509 projectiles during mobilization, it is assumed that either line must be capable of producing the equivalent of 685 M483 projectiles/shift to meet mobilization requirements. However, it should be

noted that during the time RAM data was being collected, the monthly production schedule required approximately 520 projectiles/shift/line on a 1/8/5 basis from this system. In order to prevent interruptions to normal production and maintain a reasonable per unit cost, production was maintained at a level in accordance with this schedule. As a result, the requirement of 685 projectiles/shift/line was not demonstrated. The inherent capability of the lines to meet the requirement was demonstrated, however, by production rates of 730, 770, and 752 projectiles achieved on March 1, 2, and 3, 1978, respectively, for an average of 750 projectiles per shift. This was achieved on the West Line, the only line operating at the time.

TABLE II-44 EAST LINE - FINAL ASSY/PACK-OUT
SYSTEM SUMMARY

MODULE	MTBF	MTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
CONVEYOR-TRANSFFR-SYSTEM	231.2	7.4	8	.96879	1909.0	1849.4
PROJECTILE PLACING ST.	160.4	2.3	11	.98595	1789.0	1763.9
FWD PLATE INSERTION	231.9	6.2	8	.97382	1904.7	1854.8
M42 LAYER INSERTION 1	475.3	2.2	4	.99550	1909.7	1901.1
M42 LAYER INSERTION 2	631.6	3.0	3	.99520	1904.0	1894.9
M42 LAYER INSERTION 3	188.3	2.4	10	.98737	1907.0	1882.9
M42 LAYER INSERTION 4	635.6	.9	3	.99859	1909.6	1906.9
M42 LAYER INSERTION 5	476.8	1.1	4	.99779	1911.3	1907.1
M42 LAYER INSERTION 6	640.4	.8	3	.99871	1923.7	1921.2
M42 LAYER INSERTION 7	637.3	.8	3	.99874	1914.3	1911.9
M42 LAYER INSERTION 8	318.0	.9	6	.99730	1913.0	1907.8
M46 LAYER INSERTION 9	314.7	1.1	6	.99659	1894.9	1888.4
M46 LAYER INSERTION 10	208.1	1.0	9	.99502	1882.6	1873.2
M46 LAYER INSERTION 11	47.2	1.1	39	.97776	1881.1	1839.3
ADAPTER INSERTION	945.6	3.4	2	.99647	1898.0	1891.3
SHIM INSERTION + GAGING	1848.0	0.0	0	1.00000	1848.0	1848.0
RASE PLUG TORQR ST.	265.3	5.8	7	.97851	1898.0	1857.2
PROJECTILE REMOVAL ST.	123.2	1.1	15	.99089	1865.0	1848.0
DRILL+PIN TRANSFER SYS.	623.9	3.1	3	.99511	1881.0	1871.8
PROJECTILE PLACING ST.	450.9	1.9	4	.99583	1811.0	1803.4
ZONE WEIGH + VEPIF. ST.	601.4	7.6	3	.98750	1827.0	1804.2
STENCIL STATION	117.7	4.6	15	.96200	1835.2	1765.5
LIFTING PLUG TORQUE ST.	1861.2	23.8	1	.98737	1885.0	1861.2
LFAK TEST STATION	1885.0	0.0	0	1.00000	1885.0	1885.0
PACK-OUT TRANSFFR SYSTEM	123.3	1.8	15	.98569	1876.0	1849.1

LOWER BOUND ON SYSTEM AVAILABILITY = .7740 TOTAL FAILURES = 182 SYSTEM MTR = 2.61

TABLE II-45 WEST LINE - FINAL ASSY/PACK-OUT
SYSTEM SUMMARY

MODULE	MTBF	MTRR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
CONVEYOR-TRANSFER-SYSTEM	322.3	6.0	6	.98164	1970.1	1933.9
PROJECTILE PLACING ST.	231.6	3.4	8	.98556	1880.0	1852.8
FWD PLATE INSERTION	1977.7	0.0	0	1.00000	1977.7	1977.7
M42 LAYER INSERTION 1	645.7	.7	3	.99895	1939.0	1937.0
M42 LAYER INSERTION 2	483.0	2.5	4	.99493	1942.0	1932.1
M42 LAYER INSERTION 3	492.0	1.0	4	.99801	1971.9	1968.0
M42 LAYER INSERTION 4	655.6	.6	3	.99909	1968.5	1966.7
M42 LAYER INSERTION 5	491.2	1.8	4	.99635	1971.9	1964.7
M42 LAYER INSERTION 6	387.9	2.3	5	.99413	1951.0	1939.5
M42 LAYER INSERTION 7	485.8	1.9	4	.99601	1951.0	1943.2
M42 LAYER INSERTION 8	648.9	1.2	3	.99809	1950.5	1946.8
M46 LAYER INSERTION 9	389.5	.7	5	.99831	1951.0	1947.7
M46 LAYER INSERTION 10	487.3	.5	4	.99900	1951.0	1949.0
M46 LAYER INSERTION 11	159.9	1.0	12	.99358	1930.8	1918.4
ADAPTER INSERTION	965.5	11.5	2	.98823	1954.0	1931.0
SHIM INSERTION + GAGING	481.7	1.3	4	.99733	1932.0	1926.8
RASE PLUG TORQUE ST.	390.0	2.2	5	.99436	1961.0	1949.9
PROJECTILE REMOVAL ST.	1948.2	12.8	1	.99346	1961.0	1948.2
DRILL+PIN TRANSFER SYS.	490.3	1.4	4	.99723	1966.6	1961.1
PROJECTILE PLACING ST.	1880.0	4.0	1	.99788	1884.0	1880.0
ZONE WEIGH + VFPIF. ST.	467.4	3.6	4	.99244	1884.0	1869.7
STENCIL STATION	234.0	1.8	8	.99251	1886.5	1872.4
LIFTING PLUG TOPQUE ST.	1888.8	0.0	0	1.00000	1888.8	1888.8
LEAK TEST STATION	1923.0	0.0	0	1.00000	1923.0	1923.0
PACK-OUT TRANSFER SYSTEM	172.2	2.8	11	.98423	1924.1	1893.7

LOWER ROUND ON SYSTEM AVAILABILITY = .8787 TOTAL FAILURES = 105 SYSTEM MTRR = 2.38

TABLE II-46
SUMMARY OF PACK-OUT PRODUCTION RATES

DATE	SCHED. UPTIME	PRODUCTION QTY		TOTAL	NET RATE		
		EAST LINE	WEST LINE		EAST	WEST	COMBINED
1/3/78	400.0	490	645	1135	1.23	1.61	2.84
1/4/78	405.0	532	573	1105	1.31	1.42	2.73
1/5/78	410.0	426	616	1142	1.04	1.50	2.54
1/6/78	330.0	477	490	967	1.45	1.48	2.93
1/9/78	387.0	444	566	1010	1.15	1.46	2.61
1/10/78	407.0	494	600	1094	1.21	1.47	2.68
1/11/78	342.0	447	493	940	1.31	1.44	2.75
1/16/78	412.0	475	470	945	1.15	1.14	2.29
1/17/78	412.0	525	564	1089	1.27	1.37	2.64
1/18/78	325.0	463	420	883	1.42	1.29	2.71
TOTAL							

III. SYSTEM DESCRIPTION

A. DESCRIPTION OF DEMONSTRATION TEST

1. DEBUG ACCEPTANCE

After each machine has been installed and debugged, it will be qualified prior to the demonstration test. For a machine or station to qualify it must produce a consecutive number of acceptable parts. The required quantity for each machine is listed below:

<u>MACHINE</u>	<u>ACCEPTABLE PARTS</u>
Hardness Tester	320 Adapters or Grenades
Lead Cup	320 Grenades
Body Loader	320 Grenades
Fuze Assembly	260 Grenades
Final Assembly	140 Projectiles
Pack-Out	140 Projectiles

2. DEFINITION OF TEST

The test will consist of collecting RAM data for each machine/station which successfully passed the qualification test. The duration of the test will be five days, approximately 400 minutes operation per day for all qualified equipment. Due to limited number of qualified personnel to collect the RAM data it is expected that the test will run for approximately six weeks. The data will be collected in accordance with Form SARPA-QA 2807 and forwarded to ARRADCOM (DRDAR-QAS) on a monthly basis for review and evaluation. Samples of a completed RAM data form and keypunched computer data card are provided in Figure III-A.

3. EQUIPMENT EVALUATION

The following type and amount of equipment has been qualified and will undergo the demonstration test:

<u>QTY</u>	<u>TYPE</u>
1	Adapter Hardness Tester
5	Grenade Body Hardness Testers
5	Lead Cup Insertion Machines
5	Grenade Body Loaders
10	Fuze Assembly Machines
-	Final Assy/Pack-Out Equipment/Line*
1	Projectile Placing Station
2	Forward Plate Insertion Station
11	Grenade Insertion Stations
1	Adapter Insertion Station
1	Shim & Gage Station

LONE STAR		A. A. P.		R. A. M. DATA				SIGNATURE PRINTED NAME		TOTAL		ROUNDS PROCESSED	
PAGE NO 1		OPERATION		ADAPTER HARDNESS VERIFICATION				BLDG				12900	
DATE		START TIME		STOP TIME		STOP CODE		DOWNTIME		STA. NO.		PRODUCTION RATE	
								MIN.					
012478		0730				0				101			
				0930		2		15 00		101		START OF SHIFT	
		0945		0955		3		2 94		101		BREAK	
		0958		1037		3		0 40		101		CODE 35	
		1038		1125		2		35 00		101		CODE 31	
		1200		1330		2		15 00		101		LUNCH	
		1345		1450		1		-		101		BREAK	
												END OF SHIFT	
01247809450955300294101				CODE 35		1				LSRAP		COMPUTER CARD	
												COLUMN INFO	
												1-6 DATE	
												7-10 START TIME	
												11-14 STOP TIME	
												15 STOP CODE	
												16-21 DOWNTIME	
												22-24 STATION NO.	
												34-65 REMARKS	
												72-76 PLANT ID	
												TOTAL ROUNDS REJECTED THIS STA	
												POUNDS 0	

STOP CODES 1. END OF SHIFT
 2. BREAK/LUNCH
 3. CORRECTIVE MAINTENANCE
 4. END OF PRODUCTION RUN
 5. PREVENTIVE MAINTENANCE
 6. ADMINISTRATIVE (STATE REASON)

FIGURE III-A RAM DATA FORM AND COMPUTER CARD

<u>QTY</u>	<u>TYPE</u>
1	Base Plug Torque Machine
1	Projectile Transfer Station
1	Zone Weigh Station
1	Stencil Station
1	Lifting Plug Torque Station
1	Leak Test Station

*There are two parallel final assy & pack-out lines; each line contains the exact same type and quantity of equipment.

B. NARRATIVE OF SYSTEM OPERATION

1. Adapter Hardness Tester

Adapters received from stores are automatically fed to the hardness tester by a parts elevator (supply hopper) and vibratory feeder. The supply hopper is manually replenished from the original carton. The adapters are spaced apart and passed through the eddy current coil to be tested. Acceptable parts continue on to the next operation while rejected parts are diverted from the conveyor for disposal. Acceptable parts are bulk loaded into boxes and transported in buggies to the Final Assembly and Pack-Out System.

2. Grenade Body Hardness Testers

Parts Distribution System: Properly oriented parts are conveyed in bulk through a distribution mechanism whereby the parts are separated and fed into seven (7) individual dividers. Each row of parts is then diverted onto its respective hardness test feed conveyor at various points along the system.

Automatic Hardness Test: The bodies are conveyed through a degaussing coil to eliminate any residual magnetism, then through an eddy current coil to be tested. The accepted parts continue on to the next operation while rejects are diverted from conveyor for disposal.

Lead Cup Machine: Receive lead cup assemblies and manually dump into a vibratory bowl feeder, which feeds the lead cup to the lead cup machine. The lead cup machine automatically receives the grenade bodies via conveyor system and receives lead cups via conveyor system to be automatically inserted and pressed into the hole in top of the body and is conveyed to the next operation.

Automatic Tray Loading Machines: Accepted parts are loaded into trays (64 per tray) by Automated Tray Loading Machine.

Trayed bodies are manually loaded into buggies (48 trays per buggy), to be used in production system.

Loaded buggies are transported to the Body Loading System for use on demand.

3. Body Loading Systems

Trayed M42 or M46 grenade bodies are manually placed into the tray unloading machine. The tray unloading machine automatically removes the grenade bodies from the tray and feeds the bodies to the assembly machine, which automatically receives the grenade bodies and nest via conveyor system and automatically assembles the nest to the grenade body.

The Composition A-5 powder is received; twenty-five (25) lbs. of it is then placed in individual stainless steel containers, which are then loaded on the automatic powder feed system to be transferred and distributed to the proper loading system. This is an automatic car dispatching system that distributes powder on demand to each pelleting press every four and one-half (4½) minutes and/or as required.

The Rotary Consolidating Press receives the grenade body and nest via conveyor system and receives Composition A-5 on demand via Automatic Powder Distribution System. The Rotary Consolidating Press automatically loads powder into the grenade bodies in two stages, the pre-compression and the final compression. (Consolidation pressure is approximately 13 tons, dead load. Press is instrumented to control the amount of powder that is consolidated into the body.)

The Disassembly Machine receives the grenade body and nest via conveyor system and automatically disassembles the grenade body from the nest. The nest is then recirculated for re-use and loaded body continues on to the next operation and nest is conveyed to the Ultrasonic nest cleaner to be cleaned automatically of excess powder, and then returned to the assembly machine via conveyor system (nests are cleaned in a Freon TA solvent).

Receive cones and load manually into the hopper type buggies (25,000 cones per buggy). The buggies are transported via the driverless tractor system to the body loading system for use as required. The buggy is plugged into a cone conveyor which feeds the cone hopper and vibratory feeder.

The Rotary Swaging Machine receives the grenade body and cones via conveyor and vibratory feeder system. The Rotary Swaging Machine automatically swages the cone into the body. The cone is inserted and force is applied to the cone, to insure the cone is properly seated against the charge. (Approximately 5 tons pressure is applied to the swaging operation.) (The Rotary Swaging Machine is instrumented so that the swaging pressure is recorded on each part.)

The Automatic Gaging Machine receives the grenade bodies from the Rotary Swaging Machine via conveyor system. The gaging machine automatically

checks the height of the cone in the grenade body. All rejected parts exit from the machine thru a reject chute. All accepted parts continue on to the next operation.

The Traying Machine receives the grenade bodies via conveyor system and automatically places the grenades into the trays and the trays are manually loaded into buggies for transportation to the Automatic Body Assembly System.

The Automatic Body Loading System has the capability of producing 90 ppm @ 100% efficiency.

4. Fuze Assembly System

The loaded M42 and M46 grenade bodies are received at the Automatic Body Assembly System's untraying machine.

The trayed grenade bodies are manually removed from buggies and fed to the untraying machine. At this point the grenades are automatically removed from the trays and fed onto the infeed conveyor of the assembly machine. Grenade bodies are automatically picked up from infeed conveyor and placed on pallet of the assembly machine.

Grenades are automatically oriented to accept fuze assembly and are locked in position.

Fuzes are delivered to individual fuze-body assembly systems as required.

Trayed fuzes are manually placed in automatic untraying machine. The untraying machine automatically removes fuzes from trays and feeds them into the Fuze Gage Station.

Fuze firing pin is automatically gaged. Accepted fuzes are automatically fed into the Fuze Placing Station of the Body Assembly System (this gaging operation runs slightly faster than the assembly machine to compensate for a reasonable number of rejects).

Assemble fuze to body - The fuzes are automatically positioned over studs on grenade body.

Fuze orient check - The following checks are automatically performed to insure proper positioning of fuze on body.

- A. Orientation of fuze
- B. Position of arming screw weight
- C. Presence and position of spiral pin

Clinch fuze - The body studs are automatically staked to fasten the fuze assemblies to the body (staking pressure is regulated and monitored by means of a hydraulic Control System).

Tape stiffener assembly - Delivered to individual assembly systems by driverless tractor system as required and the tape stiffener assemblies are manually placed on circulating ribbon staking fixtures.

The staking fixture with tape stiffener assembly is automatically positioned over the arming screw of the fuze.

The tape stiffener assembly is automatically clinched to the rivet end of fuze arming screw (staking pressure is regulated by a hydraulic Control System).

The staking fixture is removed from the assembly machine and recirculated for placement of more tape stiffener assemblies.

The grenade assemblies with tape stiffener assembly, are conveyed to the tape stiffener winding fixtures where the tape stiffener assemblies are automatically wound.

The grenade assembly is now complete and automatically removed from the assembly machine and placed on outfeed conveyor to be carried to traying station where the accepted grenades are trayed and placed in buggies for move to lot acceptance holding building as required.

Each Automatic Body Assembly System operates at a machine rate of 30 ppm @ 100% efficiency.

5. Final Assembly and Pack-Out Systems

When appropriate function tests have been performed and lot accepted, the buggies are transferred to final assembly building, as required. Trays are manually removed from buggies and placed on grenade distribution system.

After projectiles have been issued to Production, they are manually removed from pallet for departure to final assembly building. Projectiles are supplied to Projectile Placing Station via conveyor (station is fully automatic).

Projectile is oriented (keyway forward) and cargo back-up ram is extended (station will not release projectile until both operations have been performed).

Perform preliminary inspection on forward plate, o-ring and rubber pad, grease o-ring and assemble forward plate and o-ring, place rubber pad on forward plate and release pallet to first grenade loading station.

Perform necessary inspection on sleeves (long) and place sleeves (long) manually into projectile after grenades are in place.

Perform necessary inspection on spacers (long) and feed spacers (long) manually into the projectile after grenades are in place.

Load layers, 1 thru 8 (M42), 9 thru 11 (M46) grenades are removed from trays, safety clips are removed, grenades are manually placed in projectile. Automatic pin pulling head extends, pushes grenades into projectile, pulls spiral pins and retracts to up position, pin tray extends, pins are dropped into tray, tray retracts. Visual check for slider protruding, ribbons in place, and incorrect grenade 9th thru 11th layer.

Adapters are manually placed in projectile, along with sleeves (short), spacers (short) and splines (short). Machine is activated to extend, press adapters to predetermined pressure, retract and release pallet.

Load Gage Station is a semi-automatic station. Extend ram, which puts a predetermined pressure on head. Number of shims required is noted by operator. Ram is retracted and number of shims required is placed in projectile. Receive shims from Stores and place in projectile manually as required.

Receive and inspect base plug. Receive and inspect base plug - o-ring. Assemble base plug and o-ring. Receive and inspect Loctite. Place Loctite manually on base plug threads, then start base plug manually into the projectile.

Torque and torque check base plug torque.

Torque Station is fully automatic, which positions and locks pallet, extends torque head, torques base plug to a predetermined torque, reverses, applies break-away torque, reverses again and applies full torque. Pallet is then released for transfer to next operation.

(If base plug does not withstand break-away torque, an alarm is sounded and operation of station is taken over by bay supervisor for disposition of rejected torqued projectile). Projectile is manually checked for gap between the base plug and projectile (rejects are removed at this point).

Transfer to pack-out system - This operation is fully automated to remove projectile from Cross Transfer System, transfer projectile to pack-out system and place base-end down in pack-out pellet.

Pack-Out Operation -

Zone Weigh: This operation is fully automated to weigh and verify the weight of assembled projectile. The station engages the projectile, weighs it, gives a digital read-out of the weight and disengages from the projectile. Weight is retained in a memory system and transferred to the stencil and zone stake station. Pallet is then released for next operation.

Stencil and Zone Stake - is fully automated to stencil and zone stake projectile with a memory from previous station. The projectile is engaged, stenciled as to nomenclature and punch-marked to appropriate zone. (Visual inspection of marking).

Receive and unpack cups - place cups manually on trays for usage at stake station.

Insert cups manually in projectile.

Stake and gage cup - is a semi-automatic station. When projectile is locked station, operator places cup in projectile, activates station which locates, stakes and gauges cup.

Receive and inspect propellant - Propellant is supplied to bay via powder buggy, and manually poured into hopper of powder loader, which is inside a barricade. Receive and inspect cap and spring assembly and transfer to bay for usage.

The three operations immediately following are performed in G Line:

Load propellant in bag - operator places bag over spout below loader and activates switch, which drops correct amount of propellant into bag.

Seal bag - bags are sealed by remote control after they are placed in heat seal unit and barricade door is closed. Leak test is required. Sealed bag is placed in a chamber of water and pressurized to appropriate amounts.

Pack-out bag - bags are placed in proper containers after passing inspection and shipped to final assembly.

Place charge and start nose plug. When depth of cup has been verified correct, operator places charge and starts nose plug.

Torque and Torque Check Nose Plug - This station is fully automatic station which positions and locks pallet, extends torque head, torques nose plug to a predetermined torque, reverses, applies break-away torque, reverses again and applies full torque. Pallet is then released for transfer to next operation (if nose plug will not stand break-away torque, a reject memory pin will be set cancelling all subsequent operation).

Leak Test - This station is a semi-automatic station which locks projectile in position. The air test chamber moves down over projectile seals against the base of pallet. Chamber is pressurized to required amount. Chamber is then de-pressurized and retracted from projectile. If acceptable, operator then releases pallet (if rejected, a reject memory pin will be set cancelling all subsequent operations).

Receive grommet and place manually on projectile following removal from pack-out system.

Pelletize - This is a manually operated station to place projectile on pallets, receive lids, stencil lids manually, place lid on pallets. After lid is placed on pallet or projectiles it is strapped and sealed. Straps are stapled to pallet manually.

When inspection of pallet is complete it is moved to shipping area for necessary paper work for shipment to storage.

C. SIMPLIFIED BLOCK DIAGRAM

Figure III-B contains a block diagram of a load, assemble and pack operations for the M483 projectile. This diagram is not the exact layout of the LSAAP operation. Its intent is merely to show the logical flow of material described in the narrative of the system operation.

**APPENDIX B. COMPUTER RAM ANALYSIS FOR HARDNESS,
LEAD CUP INSERTION, BODY LOADING, FUZE ASSEMBLY, AND
FINAL ASSEMBLY/PACK-OUT**

SYSTEM SUMMARY

MODULE	MTRF	MTTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
ADAPTER HARDNESS VERIF.	98.8	1.2	19	.98824	1899.5	1877.2
HARDNESS VERIFICATION 2	55.2	1.3	26	.97615	1470.9	1435.8
HARDNESS VERIFICATION 3	114.8	1.5	9	.98712	1046.8	1033.3
HARDNESS VERIFICATION 4	82.3	1.9	19	.97722	1601.0	1564.5
HARDNESS VERIFICATION 5	89.1	.9	18	.99037	1619.3	1603.7
HARDNESS VERIFICATION 6	75.2	1.4	23	.98121	1762.8	1729.7
OVERALL SYSTEM	81.1	1.4	114	.98339	9400.3	9244.2

STATION 101 AT LSAAP

MODULE 1 = ADAPTER HARNESS VERIF.

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE CODE
01/24/78	07:30	09:55	130.00	2.90	1	1	COOF 35
01/24/78		10:37	39.10	.38	2	2	COOF 31
01/24/78		END OF SHIFT AT 14:50					
01/26/78	07:30	10:01	338.62	.60	3	3	COOF 31
01/26/78		13:15	158.40	.52	4	4	COOF 31
01/26/78		13:18	2.48	.40	5	5	COOF 31
01/26/78		END OF SHIFT AT 14:40					
01/27/78	07:30	09:10	166.60	4.43	6	6	COOF 32
01/27/78		10:52	82.57	2.60	7	7	COOF 32
01/27/78		12:29	59.40	.93	8	8	COOF 31
01/27/78		END OF SHIFT AT 15:00					
01/30/78	07:30	08:37	201.60	.55	9	9	COOF 31
01/30/78		10:16	83.45	3.40	10	10	COOF 32
01/30/78		10:55	35.60	.22	11	11	COOF 31
01/30/78		12:47	76.78	.88	12	12	COOF 32
01/30/78		12:52	4.12	.60	13	13	COOF 32
01/30/78		END OF SHIFT AT 14:55					
01/31/78	07:30	07:50	127.40	.60	14	14	COOF 32
01/31/78		08:59	68.40	.52	15	15	COOF 32
01/31/78		10:44	89.48	1.00	16	16	COOF 32
01/31/78		11:14	29.00	1.05	17	17	COOF 32
01/31/78		12:29	38.95	.35	18	18	COOF 31
01/31/78		14:11	86.65	.40	19	19	COOF 32
01/31/78		END OF SHIFT AT 15:10					

STATION 152 AT LSAAP

MODULE 1 = HARDNESS VERIFICATION 2

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMRFR	FAILUREF MODE	
01/03/78	08:27	10:30	92.30	1.5A	1	1	CODE 31	
01/03/78		10:40	8.42	1.10	2	2	CODE 31	
01/03/78			END OF SHIFT AT 15:15					
01/04/78	07:30	09:0A	264.35	1.20	3	3	CODE 32	
01/04/78		09:1A	8.80	2.12	4	4	CODE 31	
01/04/78		10:33	51.02	1.43	5	5	CODE 31	
01/04/78		11:0A	27.32	1.75	6	6	CODE 31	
01/04/78		14:03	90.07	.63	7	7	CODE 31	
01/04/78		14:20	14.17	.8A	8	8	CODE 32	
01/04/78			END OF SHIFT AT 15:15					
01/05/78	07:30	08:13	92.52	.6A	9	9	CODE 31	
01/05/78		08:59	33.60	1.8A	10	10	CODE 31	
01/05/78		11:0A	95.53	2.43	11	11	CODE 31	
01/05/78		12:11	19.52	.5A	12	12	CODE 31	
01/05/78		13:03	4A.32	.80	13	13	CODE 31	
01/05/78		13:52	28.43	.53	14	14	CODE 31	
01/05/78		14:01	7.83	1.10	15	15	CODE 31	
01/05/78		14:06	3.90	.43	16	16	CODE 31	
01/05/78		14:07	.57	2.32	17	17	CODE 32	
01/05/78		14:11	1.68	2.83	18	18	CODE 32	
01/05/78		14:34	18.90	1.5A	19	19	CODE 31	
01/05/78		14:55	19.03	1.20	20	20	CODE 31	
01/05/78		14:57	.80	1.8A	21	21	CODE 31	
01/05/78		15:01	2.12	.50	22	22	CODE 31	
01/05/78			END OF SHIFT AT 15:15					
01/06/78	07:30	07:53	30.33	.31	23	23	CODE 31	
01/06/78		08:33	35.95	1.02	24	24	CODE 32	
01/06/78		08:47	11.48	.6A	25	25	CODE 32	
01/06/78		12:06	105.03	3.5A	26	26	CODE 32	
01/06/78			END OF SHIFT AT 15:02					
01/09/78	07:30							
01/09/78								
01/09/78			END OF SHIFT AT 15:15					

MODULE 2 = HARDNESS VERIFICATION 3

STATION 153 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/16/78	07:45	07:47	1.72	4.32	1	27	CODF 31	
01/16/78		12:40	192.20	.65	2	28	CODF 31	
01/16/78			END OF SHIFT AT 15:10					
01/17/78	07:30	08:54	181.67	1.10	3	29	CODF 31	
01/17/78		09:52	40.55	1.87	4	30	CODF 31	
01/17/78		14:05	170.47	1.02	5	31	CODF 31	
01/17/78		14:34	27.03	1.53	6	32	CODF 31	
01/17/78		14:36	.47	1.48	7	33	CODF 31	
01/17/78			END OF SHIFT AT 15:15					
01/18/78	07:35	09:00	82.33	.63	8	34	CODF 31	
01/18/78			END OF SHIFT AT 14:00					
01/23/78	10:45		END OF SHIFT AT 15:00					
01/23/78			END OF SHIFT AT 15:00					
01/24/78	08:30	12:44	210.42	.88	9	35	CODF 32	
01/24/78			END OF SHIFT AT 15:10					

MODULE 3 = HARDNESS VERIFICATION 4 STATION 154 AT LSAAP

MODULE 3 = HARDNESS VERIFICATION 4

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/03/78	08:30		61.27	1.10	1	36	CODF 33	
01/03/78		10:05	1.90	.63	2	37	CODF 31	
01/03/78		10:13	4.37	1.77	3	38	CODF 31	
01/03/78		10:38	23.23	.50	4	39	CODF 33	
01/03/78		11:08	29.50	1.17	5	40	CODF 32	
01/03/78			END OF SHIFT AT 15:08					
01/04/78	07:35		171.47	1.95	6	41	CODF 31	
01/04/78		07:57	6.95	1.25	7	42	CODF 31	
01/04/78		08:02	3.75	.57	8	43	CODF 31	
01/04/78		08:08	5.43	1.07	9	44	CODF 31	
01/04/78		10:31	108.22	3.63	10	45	CODF 31	
01/04/78		12:58	101.42	2.10	11	46	CODF 31	
01/04/78		14:05	49.90	2.72	12	47	CODF 30	
01/04/78			END OF SHIFT AT 15:05					
01/05/78	07:30		219.53	4.72	13	48	CODF 31	
01/05/78		11:12	17.28	8.88	14	49	CODF 30	
01/05/78		13:49	69.67	.88	15	50	CODF 31	
01/05/78		14:45	46.58	.90	16	51	CODF 31	
01/05/78			END OF SHIFT AT 15:05					
01/06/78	07:30		59.32	.67	17	52	CODF 31	
01/06/78		08:15	13.00	1.50	18	53	CODF 31	
01/06/78		08:52	16.27	.47	19	54	CODF 31	
01/06/78			END OF SHIFT AT 15:00					
01/09/78	07:35							
01/09/78								
01/09/78			END OF SHIFT AT 15:10					

MODULE 4 = HARDNESS VERIFICATION 5 STATION 155 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
01/03/78	08:30	12:53	170.72	.77	1	55	CODF 33	
01/03/78		13:07	10.37	1.32	2	56	CODF 33	
01/03/78			END OF SHIFT AT 15:09					
01/04/78	07:32	08:04	114.62	1.50	3	57	CODF 31	
01/04/78		10:09	94.72	1.50	4	58	CODF 31	
01/04/78		12:08	71.75	.63	5	59	CODF 31	
01/04/78		12:23	14.37	.42	6	60	CODF 31	
01/04/78		15:01	139.55	1.43	7	61	CODF 33	
01/04/78			END OF SHIFT AT 15:07					
01/05/78	07:27	08:05	41.35	.55	8	62	CODF 31	
01/05/78		08:12	6.45	.23	9	63	CODF 31	
01/05/78		08:17	4.77	1.82	10	64	CODF 31	
01/05/78		08:29	10.18	1.95	11	65	CODF 33	
01/05/78		09:48	47.02	.53	12	66	CODF 31	
01/05/78		12:58	97.53	.43	13	67	CODF 31	
01/05/78		13:03	4.17	.95	14	68	CODF 31	
01/05/78			END OF SHIFT AT 15:07					
01/06/78	07:28	13:25	375.22	.40	15	69	CODF 31	
01/06/78		14:07	26.60	.43	16	70	CODF 31	
01/06/78		14:08	.57	.42	17	71	CODF 31	
01/06/78		14:47	35.33	.32	18	72	CODF 31	
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:28							
01/09/78								
			END OF SHIFT AT 15:10					

MODUL F 5 = HARDNESS VERIFICATION 6 STATION 156 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/05/78	08:20	09:55	64.25	1.17	1	73	CODE 31
01/05/78		12:05	81.82	2.43	2	74	CODE 31
01/05/78		12:32	22.70	.58	3	75	CODE 31
01/05/78		12:44	8.58	.90	4	76	CODE 31
01/05/78		13:50	46.70	4.50	5	77	CODE 30
01/05/78		14:30	34.87	1.33	6	78	CODE 31
END OF SHIFT AT 15:05							
01/06/78	07:30	07:45	43.22	1.22	7	79	CODE 31
01/06/78		07:47	.78	1.42	8	80	CODE 31
01/06/78		07:50	1.58	1.90	9	81	CODE 31
01/06/78		08:50	58.10	1.72	10	82	CODE 31
01/06/78		08:52	.28	1.50	11	83	CODE 33
01/06/78		13:15	197.05	.95	12	84	CODE 32
END OF SHIFT AT 15:00							
01/09/78	07:35	08:47	158.53	.55	13	85	CODE 31
01/09/78		08:50	2.45	1.62	14	86	CODE 31
01/09/78		10:26	58.30	1.27	15	87	CODE 31
01/09/78		12:34	90.90	1.47	16	88	CODE 31
01/09/78		13:06	30.53	1.65	17	89	CODE 31
01/09/78		13:15	7.35	1.87	18	90	CODE 31
01/09/78		15:00	77.13	.73	19	91	CODE 31
END OF SHIFT AT 15:10							
01/10/78	07:50	14:25	333.02	.87	20	92	CODE 31
01/10/78		14:53	26.32	.82	21	93	CODE 31
END OF SHIFT AT 15:10							
01/11/78	07:30	10:37	171.32	1.05	22	94	CODE 31
01/11/78		12:24	64.48	1.62	23	95	CODE 31
END OF SHIFT AT 15:10							

SYSTEM SUMMARY

MODULE	INSFRT STA	2	3	4	5	6	MTRF	MTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
LFAD CUP	INSFRT STA	2					11.0	1.3	131	.89598	1602.6	1435.9
LFAD CUP	INSFRT STA	3					20.1	2.5	51	.89119	1152.5	1027.1
LFAD CUP	INSFRT STA	4					33.3	2.5	47	.92979	1682.7	1564.5
LFAD CUP	INSFRT STA	5					21.1	1.1	76	.94862	1690.6	1603.7
LFAD CUP	INSFRT STA	6					57.7	1.2	30	.98008	1764.8	1729.6
OVERALL	SYSTEM						22.0	1.6	335	.93255	7893.2	7360.8

MODUL F 1 = LEAD CUP INSERT STA 2 STATION 152 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
01/03/78	08:27	08:43	16:00	1:00	1	1	CODE 49
01/03/78		09:07	11:18	.8A	2	2	CODE 49
01/03/78		10:52	14:43	1:20	3	3	CODE 40
01/03/78		11:14	20:80	1:03	4	4	CODE 40
01/03/78		11:20	4:97	2:03	5	5	CODE 40
01/03/78		13:22	6A:08	1:80	6	6	CODE 40
01/03/78		13:52	9:20	2:00	7	7	CODE 40
01/03/78		14:31	37:00	3:8A	R	R	CODE 42

END OF SHIFT AT 15:15

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
01/04/78	07:30	07:48	58:12	.50	9	9	CODE 44
01/04/78		07:49	.50	.93	10	10	CODE 44
01/04/78		07:54	4:07	1:13	11	11	CODE 40
01/04/78		08:04	8:87	1:75	12	12	CODE 49
01/04/78		08:09	3:25	.30	13	13	CODE 45
01/04/78		08:58	29:60	1:00	14	14	CODE 49
01/04/78		09:23	20:6A	.32	15	15	CODE 49
01/04/78		09:25	1:68	.6A	16	16	CODE 4A
01/04/78		10:02	20:32	1:83	17	17	CODE 49
01/04/78		10:26	22:17	3:03	18	18	CODE 49
01/04/78		10:44	13:53	4:5A	19	19	CODE 40
01/04/78		10:50	1:42	1:25	20	20	CODE 44
01/04/78		11:00	8:75	.42	21	21	CODE 4A
01/04/78		12:10	25:83	1:5A	22	22	CODE 49
01/04/78		12:13	1:42	.40	23	23	CODE 4A
01/04/78		12:18	4:60	6:50	24	24	CODE 40
01/04/78		12:29	4:50	3:05	25	25	CODE 49
01/04/78		12:33	.95	1:2A	26	26	CODE 44
01/04/78		12:46	11:72	4:50	27	27	CODE 44
01/04/78		12:53	2:50	1:40	28	28	CODE 44
01/04/78		13:12	3:60	4:05	29	29	CODE 44
01/04/78		13:14	1:12	.8A	30	30	CODE 42
01/04/78		14:0A	35:83	.53	31	31	CODE 49
01/04/78		14:16	7:50	.50	32	32	CODE 4A
01/04/78		14:18	.8A	1:12	33	33	CODE 46
01/04/78		14:46	26:53	.5A	34	34	CODE 46
01/04/78		14:59	11:90	1:10	35	35	CODE 49
01/04/78				3:00	36	36	CODE 49

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMFR	SYSTEM FAILURE NUMFR	FAILURE MODE
01/04/7A							
		END OF SHIFT AT 15:15					
01/05/7A	07:30	07:48	31.00	.50	37	37	CONF 49
01/05/7A		08:29	39.82	.53	38	38	CONF 46
01/05/7A		08:33	3.47	.68	39	39	CONF 40
01/05/7A		09:56	52.13	.62	40	40	CONF 49
01/05/7A		10:04	7.38	.27	41	41	CONF 46
01/05/7A		10:42	25.90	.28	42	42	CONF 44
01/05/7A		10:44	1.72	.12	43	43	CONF 44
01/05/7A		10:50	5.88	.67	44	44	CONF 44
01/05/7A		12:09	35.90	1.05	45	45	CONF 49
01/05/7A		12:25	14.37	.12	46	46	CONF 46
01/05/7A		12:34	8.88	.62	47	47	CONF 46
01/05/7A		12:38	3.38	1.20	48	48	CONF 49
01/05/7A		12:50	10.80	.32	49	49	CONF 46
01/05/7A		12:53	2.68	.25	50	50	CONF 46
01/05/7A		12:57	3.75	.27	51	51	CONF 46
01/05/7A		13:01	3.73	.33	52	52	CONF 42
01/05/7A		13:05	2.87	.50	53	53	CONF 42
01/05/7A		13:11	5.50	.83	54	54	CONF 46
01/05/7A		13:13	1.17	.80	55	55	CONF 49
01/05/7A		13:22	8.20	.20	56	56	CONF 46
01/05/7A		13:24	1.80	.43	57	57	CONF 42
01/05/7A		13:58	16.03	.63	58	58	CONF 42
01/05/7A		14:15	9.68	1.27	59	59	CONF 44
01/05/7A		14:42	24.15	.38	60	60	CONF 44
01/05/7A		15:03	17.03	.43	61	61	CONF 46
01/05/7A		15:05	1.57	.50	62	62	CONF 42
		END OF SHIFT AT 15:15					
01/05/7A	07:30	07:40	19.50	4.93	63	63	CONF 44
01/05/7A		07:46	1.07	.30	64	64	CONF 42
01/05/7A		07:55	8.37	1.68	65	65	CONF 44
01/05/7A		08:02	5.32	1.10	66	66	CONF 44
01/05/7A		08:19	15.90	.93	67	67	CONF 42
01/05/7A		08:39	18.05	.62	68	68	CONF 44
01/05/7A		08:41	1.38	.88	69	69	CONF 44
01/05/7A		08:55	11.93	.40	70	70	CONF 42

MODULE 1 = LEAD CUR INSERT STA 2 (CONTD) STATION 152 AT LGAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/06/78	09:03	7:60	.27	71	71	71	CODE 42
01/06/78	09:04	.73	2.50	72	72	72	CODE 42
01/06/78	09:13	6.50	.58	73	73	73	CODE 42
01/06/78	09:15	1.42	.50	74	74	74	CODE 42
01/06/78	09:59	26.50	4.50	75	75	75	CODE 42
01/06/78	10:04	.50	1.83	76	76	76	CODE 42
01/06/78	10:07	1.17	.63	77	77	77	CODE 42
01/06/78	10:09	1.37	1.07	78	78	78	CODE 42
01/06/78	10:20	9.93	1.20	79	79	79	CODE 42
01/06/78	10:29	7.80	.88	80	80	80	CODE 44
01/06/78	10:33	3.12	.58	81	81	81	CODE 46
01/06/78	10:34	.42	.33	82	82	82	CODE 42
01/06/78	10:55	20.67	.68	83	83	83	CODE 42
01/06/78	11:14	3.38	.40	84	84	84	CODE 44
01/06/78	11:15	.60	3.28	85	85	85	CODE 42
01/06/78	11:20	1.72	1.20	86	86	86	CODE 42
01/06/78	12:14	9.22	5.20	87	87	87	CODE 42
01/06/78	12:22	2.80	.83	88	88	88	CODE 44
01/06/78	12:26	3.17	.73	89	89	89	CODE 42
01/06/78	12:29	2.27	.40	90	90	90	CODE 46
01/06/78	12:31	1.60	.68	91	91	91	CODE 42
01/06/78	12:34	2.32	1.00	92	92	92	CODE 46
01/06/78	12:45	10.00	.75	93	93	93	CODE 42
01/06/78	12:50	4.25	.28	94	94	94	CODE 42
01/06/78	13:02	11.72	2.58	95	95	95	CODE 42
01/06/78	13:09	4.42	.80	96	96	96	CODE 46
01/06/78	13:17	7.20	.33	97	97	97	CODE 46
01/06/78	13:22	4.67	3.00	98	98	98	CODE 48
01/06/78	14:03	23.00	.80	99	99	99	CODE 42
01/06/78	14:04	.20	1.10	100	100	100	CODE 44
01/06/78	14:10	4.90	.58	101	101	101	CODE 48
01/06/78	14:12	1.42	.37	102	102	102	CODE 48
01/06/78	14:17	4.63	.28	103	103	103	CODE 42
01/06/78	14:20	2.72	.28	104	104	104	CODE 44
01/06/78	14:38	17.72	1.00	105	105	105	CODE 48
01/06/78	14:40	1.00	.80	106	106	106	CODE 48
END OF SHIFT AT 15:02							
01/09/78	07:30						
01/09/78		35.20	.25	107	107	107	CODE 44

MODULE 1 = LEAD CUP INSERT STA 2 (CONID) STATION 152 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/09/78	07:49	4.75	.2A	10A	10A	10A	CODE 42
01/09/78	07:51	1.72	.40	109	109	109	CODE 42
01/09/78	07:53	1.60	.2A	110	110	110	CODE 44
01/09/78	07:59	5.72	1.8A	111	111	111	CODE 44
01/09/78	08:03	2.12	.2A	112	112	112	CODE 44
01/09/78	08:05	1.72	.25	113	113	113	CODE 44
01/09/78	08:06	.75	.43	114	114	114	CODE 44
01/09/78	08:11	4.57	4.80	115	115	115	CODE 44
01/09/78	08:17	1.20	3.8A	116	116	116	CODE 44
01/09/78	08:22	1.12	1.33	117	117	117	CODE 44
01/09/78	12:14	23.67	5.2A	11A	11A	11A	CODE 44
01/09/78	12:22	2.72	4.50	119	119	119	CODE 44
01/09/78	12:29	2.50	.5A	120	120	120	CODE 44
01/09/78	12:33	3.42	.83	121	121	121	CODE 44
01/09/78	12:34	.17	1.50	122	122	122	CODE 48
01/09/78	12:3A	2.50	3.80	123	123	123	CODE 44
01/09/78	12:46	4.20	1.80	124	124	124	CODE 44
01/09/78	13:55	35.20	.5A	125	125	125	CODE 44
01/09/78	14:02	6.42	1.83	126	126	126	CODE 46
01/09/78	14:10	6.17	.50	127	127	127	CODE 44
01/09/78	14:11	.50	.4A	12A	12A	12A	CODE 44
01/09/78	14:23	11.52	.67	129	129	129	CODE 44
01/09/78	14:3A	14.33	1.00	130	130	130	CODE 46
01/09/78	14:44	5.00	.2A	131	131	131	CODE 46

END OF SHIFT AT 15:15

STATION 153 AT 1 SAAP

MODULE 2 = LEAD CUP INSERT STA 3

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/16/78	07:45	07:46	1.00	.28	1	132	CONF 4A
01/16/78		08:00	9.40	5.07	2	133	CONF 4B
01/16/78		08:22	16.93	7.57	3	134	CONF 44
01/16/78		08:37	7.43	26.42	4	135	CONF 50
01/16/78		10:40	76.58	1.17	5	136	CONF 44
01/16/78		12:25	68.83	.95	6	137	CONF 44
01/16/78		12:37	11.05	.32	7	138	CONF 48
01/16/78		13:10	32.03	1.42	8	139	CONF 46
01/16/78		13:15	3.58	1.08	9	140	CONF 48
01/16/78		14:00	28.92	1.02	10	141	CONF 44
01/16/78		14:45	28.98	.25	11	142	CONF 50
END OF SHIFT AT 15:10							
01/17/78	07:30	07:37	31.75	.22	12	143	CONF 4A
01/17/78		07:42	4.78	.25	13	144	CONF 4A
01/17/78		07:52	9.75	.72	14	145	CONF 44
01/17/78		08:24	16.28	.67	15	146	CONF 44
01/17/78		08:49	24.33	1.07	16	147	CONF 46
01/17/78		09:10	18.83	1.35	17	148	CONF 44
01/17/78		10:45	68.15	1.42	18	149	CONF 44
01/17/78		11:10	23.58	3.07	19	150	CONF 40
01/17/78		13:14	70.23	.77	20	151	CONF 44
01/17/78		13:22	7.23	.62	21	152	CONF 44
01/17/78		14:04	26.38	.47	22	153	CONF 46
01/17/78		14:30	24.52	.95	23	154	CONF 42
END OF SHIFT AT 15:15							
01/18/78	07:35	08:15	41.87	.55	24	155	CONF 44
01/18/78		08:20	4.45	.47	25	156	CONF 44
01/18/78		09:17	45.90	.25	26	157	CONF 4A
END OF SHIFT AT 14:00							
01/23/78	10:45	10:47	14.75	.45	27	158	CONF 44
01/23/78		10:50	2.55	4.01	28	159	CONF 44
01/23/78		10:57	2.97	3.08	29	160	CONF 44
01/23/78		11:05	4.92	15.00	30	161	CONF 50

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/23/78		14:04	19.00	6.30	31	162	CODE 40	
01/23/78		14:35	13.70	12.00	32	163	CODE 40	
01/23/78		14:50	3.00	3.10	33	164	CODE 44	
01/23/78		END OF SHIFT AT 15:00						
01/24/78	08:30							
01/24/78		08:36	12.90	.68	34	165	CODE 44	
01/24/78		08:39	2.32	1.87	35	166	CODE 40	
01/24/78		08:44	3.13	2.10	36	167	CODE 44	
01/24/78		08:51	4.90	.92	37	168	CODE 44	
01/24/78		09:10	6.77	4.57	38	169	CODE 48	
01/24/78		10:47	35.23	1.13	39	170	CODE 44	
01/24/78		10:54	5.87	.97	40	171	CODE 44	
01/24/78		10:56	1.03	.42	41	172	CODE 44	
01/24/78		11:00	3.58	.83	42	173	CODE 49	
01/24/78		11:03	2.17	1.13	43	174	CODE 44	
01/24/78		11:07	2.87	1.48	44	175	CODE 44	
01/24/78		11:19	10.52	2.62	45	176	CODE 44	
01/24/78		12:08	11.38	.52	46	177	CODE 49	
01/24/78		12:16	7.48	1.00	47	178	CODE 44	
01/24/78		12:20	3.00	.28	48	179	CODE 46	
01/24/78		12:56	34.83	.25	49	180	CODE 44	
01/24/78		14:46	93.70	.63	50	181	CODE 44	
01/24/78		14:58	11.37	1.68	51	182	CODE 49	
01/24/78		END OF SHIFT AT 15:10						

STATION 154 AT LSAAP

MODULF 3 = LEAD CHIP INSERT STA 4

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	08:30	08:35	5.00	.80	1	183	CODE 49
01/03/78		08:39	3.20	.58	2	184	CODE 49
01/03/78		09:06	11.42	.72	3	185	CODE 40
01/03/78		09:17	10.28	1.63	4	186	CODE 49
01/03/78		12:36	122.45	.92	5	187	CODE 49
01/03/78		12:54	17.08	4.00	6	188	CODE 46
01/03/78		13:03	5.00	4.70	7	189	CODE 46
END OF SHIFT AT 15:08							
01/04/78	07:35	07:55	123.35	1.10	8	190	CODE 49
01/04/78		09:18	64.02	1.40	9	191	CODE 48
01/04/78		09:25	5.60	1.63	10	192	CODE 49
01/04/78		10:29	46.37	.68	11	193	CODE 49
01/04/78		11:10	37.68	1.10	12	194	CODE 49
01/04/78		12:24	32.90	.85	13	195	CODE 49
01/04/78		14:28	103.33	3.40	14	196	CODE 46
END OF SHIFT AT 15:05							
01/05/78	07:30	12:51	244.65	1.45	15	197	CODE 49
01/05/78		13:55	46.67	1.72	16	198	CODE 49
01/05/78		14:28	31.28	6.82	17	199	CODE 44
01/05/78		14:50	14.28	2.07	18	200	CODE 49
END OF SHIFT AT 15:05							
01/05/78	07:30	07:37	19.93	.95	19	201	CODE 49
01/05/78		08:01	23.05	.75	20	202	CODE 49
01/06/78		08:22	18.57	.33	21	203	CODE 48
01/05/78		08:34	10.17	.40	22	204	CODE 49
01/05/78		08:54	14.30	1.17	23	205	CODE 42
01/05/78		09:54	43.83	.75	24	206	CODE 42
01/06/78		10:04	9.25	.58	25	207	CODE 49
01/05/78		10:10	5.42	.75	26	208	CODE 49
01/05/78		10:19	8.25	.63	27	209	CODE 49
01/05/78		10:20	.37	.58	28	210	CODE 49
01/05/78		10:31	10.42	.72	29	211	CODE 49
01/05/78		13:19	107.95	.65	30	212	CODE 49

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/06/78		14:15	39.33	3.87	31	213	CODE 46	
01/06/78		14:32	13.13	.68	32	214	CODE 48	
01/06/78		14:45	12.32	1.10	33	215	CODE 49	
01/06/78		END OF SHIFT AT 15:00						
01/09/78	07:35							
01/09/78		07:46	24.07	.40	34	216	CODE 49	
01/09/78		07:47	.60	.83	35	217	CODE 46	
01/09/78		07:52	4.17	.80	36	218	CODE 48	
01/09/78		08:08	15.20	.40	37	219	CODE 49	
01/09/78		08:20	11.60	.35	38	220	CODE 49	
01/09/78		08:47	23.38	.80	39	221	CODE 44	
01/09/78		10:15	57.20	.87	40	222	CODE 49	
01/09/78		10:37	21.13	.62	41	223	CODE 49	
01/09/78		11:01	23.38	2.88	42	224	CODE 44	
01/09/78		11:05	1.12	.83	43	225	CODE 44	
01/09/78		12:23	37.17	2.63	44	226	CODE 49	
01/09/78		12:29	3.37	1.32	45	227	CODE 49	
01/09/78		14:11	78.25	.93	46	228	CODE 49	
01/09/78		14:15	3.07	55.00	47	229	CODE 40	
01/09/78		END OF SHIFT AT 15:10						

STATION 155 AT L5AAP

MODULF 4 = LEAD COP INSERT STA 5

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	08:30	08:43	13.00	2.00	1	230	CODF 49
01/03/78		09:25	24.83	1.00	2	231	CODF 49
01/03/78		10:00	19.00	.77	3	232	CODF 49
01/03/78		10:12	11.23	.95	4	233	CODF 49
01/03/78		10:24	11.05	.33	5	234	CODF 49
01/03/78		12:07	61.32	.62	6	235	CODF 49
01/03/78		12:47	25.38	1.10	7	236	CODF 49
01/03/78		13:00	11.13	.42	8	237	CODF 49
01/03/78		13:03	2.58	2.45	9	23A	CODF 49
01/03/78		13:17	10.23	.47	10	239	CODF 49
01/03/78		13:20	2.53	1.63	11	240	CODF 43
01/03/78		13:51	12.37	.63	12	241	CODF 49
01/03/78		13:56	4.37	.43	13	242	CODF 49
01/03/78		14:04	7.57	.83	14	243	CODF 49
01/03/78		14:12	7.17	.40	15	244	CODF 49
FND OF SHIFT AT 15:09							
01/04/78	07:32	07:41	65.60	2.53	16	245	CODF 44
01/04/78		07:49	5.47	14.13	17	246	CODF 40
01/04/78		08:10	5.37	.83	18	247	CODF 49
01/04/78		08:12	1.17	.28	19	248	CODF 49
01/04/78		08:21	8.72	2.25	20	249	CODF 44
01/04/78		09:59	71.20	.40	21	250	CODF 50
01/04/78		10:00	.60	.47	22	251	CODF 50
01/04/78		10:59	57.03	5.13	23	252	CODF 46
01/04/78		11:13	8.87	.62	24	253	CODF 50
01/04/78		12:36	41.33	.33	25	254	CODF 50
01/04/78		14:01	69.67	1.05	26	255	CODF 49
01/04/78		14:31	28.95	.32	27	256	CODF 50
01/04/78		14:39	7.68	.47	28	257	CODF 50
01/04/78		14:59	19.53	.87	29	258	CODF 49
FND OF SHIFT AT 15:07							
01/05/78	07:27	07:50	28.70	.53	30	259	CODF 50
01/05/78		08:03	12.47	.68	31	260	CODF 49
01/05/78		08:34	25.77	.35	32	261	CODF 49
01/05/78		08:35	.65	.35	33	262	CODF 44

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/05/78		09:22	32.95	.63	34	263	CODF 49
01/05/78		09:55	16.83	.57	35	264	CODF 49
01/05/78		10:16	20.43	.63	36	265	CODF 46
01/05/78		12:26	39.25	.62	37	266	CODF 49
01/05/78		13:00	32.95	.40	38	267	CODF 49
01/05/78		13:21	19.65	.43	39	268	CODF 44
01/05/78		14:08	31.57	1.03	40	269	CODF 43
01/05/78		14:29	19.97	1.33	41	270	CODF 48
FND OF SHIFT AT 15:07							
01/06/78	07:28	07:48	56.67	.27	42	271	CODF 49
01/06/78		07:52	3.73	.73	43	272	CODF 50
01/06/78		07:53	.27	2.53	44	273	CODF 49
01/06/78		08:01	5.47	1.13	45	274	CODF 50
01/06/78		08:18	15.87	.25	46	275	CODF 50
01/06/78		08:50	31.75	.42	47	276	CODF 43
01/06/78		09:01	10.58	.43	48	277	CODF 49
01/06/78		09:24	22.57	1.18	49	278	CODF 49
01/06/78		10:02	19.82	.88	50	279	CODF 44
01/06/78		10:30	27.12	1.07	51	280	CODF 50
01/06/78		12:15	44.90	.38	52	281	CODF 49
01/06/78		12:20	4.62	.62	53	282	CODF 50
01/06/78		12:35	14.38	.40	54	283	CODF 46
01/06/78		12:36	.60	.28	55	284	CODF 50
01/06/78		13:08	31.72	.42	56	285	CODF 44
01/06/78		14:09	44.33	.50	57	286	CODF 50
01/06/78		14:12	2.50	2.75	58	287	CODF 46
01/06/78		14:49	33.93	.80	59	288	CODF 46
FND OF SHIFT AT 15:05							
01/09/78	07:28	07:46	16.20	.23	60	289	CODF 50
01/09/78		07:49	2.77	6.58	61	290	CODF 44
01/09/78		08:23	27.42	.87	62	291	CODF 49
01/09/78		08:44	15.83	.57	63	292	CODF 49
01/09/78		08:46	1.43	.65	64	293	CODF 50
01/09/78		09:22	35.35	.83	65	294	CODF 46
01/09/78		10:21	30.17	.50	66	295	CODF 42
01/09/78		10:33	11.50	.82	67	296	CODF 43

MODULF 4 = LEAD CUP INSERT STA 5 (CONTD) STATION 155 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/09/78	10:49	15:18	.47	68	297	CODE 50	
01/09/78	10:54	4:53	3.00	69	298	CODE 50	
01/09/78	10:58	1:00	.25	70	299	CODE 45	
01/09/78	11:07	8:75	.43	71	300	CODE 50	
01/09/78	11:10	2:57	.89	72	301	CODE 50	
01/09/78	12:07	16:12	.72	73	302	CODE 49	
01/09/78	12:11	3:28	.43	74	303	CODE 50	
01/09/78	12:22	10:57	.58	75	304	CODE 50	
01/09/78	14:00	66:80	2.72	76	305	CODE 50	

END OF SHIFT AT 15:10

MODULF 5 = LEAD CUP INSRFT STA 6 STATION 156 AT LSAPP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/05/78	08:20	09:10	34.88	.63	1	306	CODF 44
01/05/78		12:08	111.75	1.87	2	307	CODF 44
01/05/78		12:35	24.55	2.10	3	308	CODF 44
01/05/78		12:41	3.90	.73	4	309	CODF 44
01/05/78		12:46	3.37	2.18	5	310	CODF 44
01/05/78		13:25	36.82	1.22	6	311	CODF 44
01/05/78		14:20	34.28	.63	7	312	CODF 44
END OF SHFT AT 15:05							
01/06/78	07:30	07:36	44.75	1.17	8	313	CODF 44
01/06/78		09:10	85.08	.73	9	314	CODF 44
01/06/78		10:14	48.27	.77	10	315	CODF 44
01/06/78		10:37	22.23	1.10	11	316	CODF 44
01/06/78		10:46	7.90	1.85	12	317	CODF 46
01/06/78		14:10	141.20	1.12	13	318	CODF 44
END OF SHFT AT 15:00							
01/09/78	07:35	08:35	108.88	1.40	14	319	CODF 44
01/09/78		08:56	17.43	1.92	15	320	CODF 44
01/09/78		10:06	38.08	1.13	16	321	CODF 44
01/09/78		10:12	4.87	3.03	17	322	CODF 50
01/09/78		11:12	55.70	.83	18	323	CODF 44
END OF SHFT AT 15:10							
01/10/78	07:50	08:20	200.45	.45	19	324	CODF 44
01/10/78		08:40	19.10	.62	20	325	CODF 44
01/10/78		08:48	7.38	.87	21	326	CODF 44
01/10/78		10:35	91.13	2.40	22	327	CODF 44
01/10/78		11:10	32.60	1.42	23	328	CODF 44
01/10/78		13:15	88.58	.05	24	329	CODF 44
01/10/78		14:30	59.08	.27	25	330	CODF 49
01/10/78		14:40	9.73	.55	26	331	CODF 44
01/10/78		15:00	18.63	1.40	27	332	CODF 49
END OF SHFT AT 15:10							
01/11/78	07:30	08:30	68.60	1.47	28	333	CODF 44
01/11/78							

MODULE 5 = LEAD CUP INSERT STA 6 (CONTD) STATION 156 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/11/78	11:00	118.48	.82	29	334		CODE 44	
01/11/78	12:15	33.97	.43	30	335		CODE 44	
01/11/78		END OF SHFT AT 15:10						

SYSTEM SUMMARY

MODULE	MTRF	MTRR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
RODY LOADING STATION 1	7.7	2.0	174	.79563	1691.2	1345.6
RODY LOADING STATION 2	6.9	2.0	197	.77593	1751.3	1358.9
RODY LOADING STATION 3	7.9	1.9	172	.80716	1680.4	1356.4
RODY LOADING STATION 4	5.4	2.5	141	.67891	1113.8	756.2
RODY LOADING STATION 5	3.9	1.9	250	.67736	1443.2	977.6
OVERALL SYSTEM	8.2	2.0	934	.75453	7679.9	5794.7

STATION 201 AT LSAAP

MODULE 1 = BODY LOADING STATION 1

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBR	FAILURE MODF
11/29/77	07:27		5.00	26.92	1	1	CODF601
11/29/77		08:00	.08	1.13	2	2	CODF304
11/29/77		08:27	.87	1.87	3	3	CODF304
11/29/77		08:29	.13	5.33	4	4	CODF505
11/29/77		08:31	.67	3.3A	5	5	CODF505
11/29/77		08:37	.62	2.7A	6	6	CODF504
11/29/77		08:41	.22	3.2A	7	7	CODF609
11/29/77		08:44	3.72	3.13	8	8	CODF408
11/29/77		08:51	7.95	1.02	9	9	CODF505
11/29/77		09:46	7.98	2.80	10	10	CODF503
11/29/77		09:55	4.20	1.67	11	11	CODF605
11/29/77		10:02	1.33	1.00	12	12	CODF302
11/29/77		10:05	1.00	1.9A	13	13	CODF401
11/29/77		10:07	.02	5.07	14	14	CODF601
11/29/77		10:09	3.93	3.8A	15	15	CODF500
11/29/77		10:1A	.12	2.30	16	16	CODF504
11/29/77		10:22	1.70	1.00	17	17	CODF302
11/29/77		10:26	3.00	1.95	1A	1A	CODF600
11/29/77		10:30	2.05	1.07	19	19	CODF302
11/29/77		10:34	3.93	1.00	20	20	CODF303
11/29/77		10:39	4.00	.57	21	21	CODF605
11/29/77		10:44	9.55	.50	22	22	CODF605
11/29/77		10:55	7.50	.63	23	23	CODFA02
11/29/77		11:03	9.37	.52	24	24	CODF605
11/29/77		11:13	1.48	.92	25	25	CODF704
11/29/77		11:15	13.08	.6A	26	26	CODF605
11/29/77		12:05	28.08	.97	27	27	CODF605
11/29/77		12:47	21.03	.6A	2A	2A	CODF605
11/29/77		13:09	5.32	.30	29	29	CODF605
11/29/77		13:15	7.70	.67	30	30	CODF401
11/29/77		13:23	1.33	.7A	31	31	CODF604
11/29/77		13:25	13.22	.43	32	32	CODF605
11/29/77		13:54	1.57	1.07	33	33	CODF307
11/29/77		13:56	4.93	.60	34	34	CODF605
11/29/77		14:02	5.40	.92	35	35	CODF401
11/29/77		14:08	10.08	.40	36	36	CODF605
11/29/77		14:19	4.60	.2A	37	37	CODF201
11/29/77		14:24	1.72	.53	3A	3A	CODF605
11/29/77		14:26	3.47	.67	39	39	CODF503
11/29/77		14:30					

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/29/77		14:40	9.33	.63	40	40	CODE 605
11/29/77		14:42	1.37	.57	41	41	CODE 605
11/29/77		14:55	12.43	.35	42	42	CODE 605
11/29/77		14:57	1.65	.37	43	43	CODE 605
11/29/77		14:59	1.63	1.40	44	44	CODE 302
11/29/77		END OF SHIFT AT 15:27					
11/30/77	07:27						
11/30/77		07:51	28.32	1.2A	45	45	CODE 401
11/30/77		08:00	7.72	.63	46	46	CODE 605
11/30/77		08:10	9.37	.3A	47	47	CODE 605
11/30/77		08:15	4.62	.72	4A	4A	CODE 605
11/30/77		08:18	2.28	.2A	49	49	CODE 605
11/30/77		08:23	4.72	.40	50	50	CODE 605
11/30/77		08:36	12.60	.27	51	51	CODE 605
11/30/77		08:39	2.73	.82	52	52	CODE 605
11/30/77		09:00	19.82	.55	53	53	CODE 304
11/30/77		09:06	4.92	.83	54	54	CODE 304
11/30/77		09:16	9.17	.57	55	55	CODE 605
11/30/77		09:21	4.43	.55	56	56	CODE 605
11/30/77		09:22	.45	.40	57	57	CODE 605
11/30/77		09:56	14.60	1.02	5A	5A	CODE 211
11/30/77		09:5A	.98	3.20	59	59	CODE 211
11/30/77		10:10	8.80	1.10	60	60	CODE 304
11/30/77		10:12	.90	.53	61	61	CODE 605
11/30/77		10:27	13.55	.2A	62	62	CODE 304
11/30/77		10:34	6.72	3.80	63	63	CODE 211
11/30/77		11:03	25.20	.3A	64	64	CODE 605
11/30/77		11:09	5.62	.83	65	65	CODE 401
11/30/77		12:19	24.63	.50	66	66	CODE 605
11/30/77		12:31	11.38	.43	67	67	CODE 605
11/30/77		12:59	26.50	.6A	6A	6A	CODE 604
11/30/77		13:01	1.32	.72	69	69	CODE 605
11/30/77		13:19	14.37	2.27	70	70	CODE 605
11/30/77		13:59	22.73	.63	71	71	CODE 409
11/30/77		14:02	2.37	3.2A	72	72	CODE 406
11/30/77		14:23	16.05	1.33	73	73	CODE 304
11/30/77		14:29	4.67	1.57	74	74	CODE 504
11/30/77		14:41	10.43	.43	75	75	CODE 605
11/30/77		14:42	.57	.97	76	76	CODE 604

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		14:46	3.03	1.10	77	77	CODF401
11/30/77		14:59	11.90	4.00	78	78	CODF210
11/30/77		15:06	3.00	5.72	79	79	CODF405
11/30/77		END OF SHIFT AT 15:20					
12/01/77	07:27						
12/01/77		07:41	4.60	20.00	80	80	CODF400
12/01/77		08:05	4.00	3.50	81	81	CODF605
12/01/77		08:20	2.25	.20	82	82	CODF210
12/01/77		08:48	27.80	.53	83	83	CODF605
12/01/77		08:55	6.47	.73	84	84	CODF605
12/01/77		09:07	11.27	4.37	85	85	CODF602
12/01/77		09:27	15.63	3.00	86	86	CODF210
12/01/77		10:09	24.00	4.60	87	87	CODF502
12/01/77		10:28	14.07	.80	88	88	CODF401
12/01/77		11:06	37.20	4.33	89	89	CODF210
12/01/77		12:14	23.67	3.58	90	90	CODF303
12/01/77		12:20	2.42	.67	91	91	CODF502
12/01/77		12:22	1.33	3.60	92	92	CODF502
12/01/77		12:29	3.40	1.73	93	93	CODF901
12/01/77		13:00	25.63	3.92	94	94	CODF210
12/01/77		13:19	12.80	1.00	95	95	CODF703
12/01/77		13:24	4.00	.70	96	96	CODF210
12/01/77		END OF SHIFT AT 15:11					
12/02/77	07:27						
12/02/77		07:55	89.27	1.50	97	97	CODF401
12/02/77		08:01	4.50	.53	98	98	CODF502
12/02/77		08:06	4.18	.48	99	99	CODF210
12/02/77		08:12	5.30	1.25	100	100	CODF502
12/02/77		08:28	14.75	.50	101	101	CODF502
12/02/77		08:40	11.25	2.60	102	102	CODF901
12/02/77		08:57	12.03	5.52	103	103	CODF307
12/02/77		10:26	42.35	1.27	104	104	CODF201
12/02/77		10:40	11.73	1.35	105	105	CODF201
12/02/77		10:44	2.25	1.00	106	106	CODF408
12/02/77		10:46	1.00	5.63	107	107	CODF100
12/02/77		10:55	2.45	.82	108	108	CODF201
12/02/77		11:03	7.18	2.02	109	109	CODF201
12/02/77		11:07	1.98	1.12	110	110	CODF201

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
12/02/77		11:09	.88	.75	111	111	CONF307	
12/02/77		11:14	4.25	3.55	112	112	CONF201	
12/02/77		11:18	.45	1.62	113	113	CONF201	
12/02/77		12:08	8.38	.33	114	114	CONF605	
12/02/77		12:13	4.67	.25	115	115	CONF605	
12/02/77		12:15	1.75	5.58	116	116	CONF503	
12/02/77		12:21	.42	.55	117	117	CONF406	
12/02/77		12:28	6.45	2.55	118	118	CONF605	
12/02/77		12:33	2.17	.35	119	119	CONF605	
12/02/77		12:46	12.65	1.13	120	120	CONF605	
12/02/77		12:55	7.87	1.50	121	121	CONF902	
12/02/77		13:02	5.50	.53	122	122	CONF605	
12/02/77		13:07	4.47	1.22	123	123	CONF605	
12/02/77		13:13	4.78	.28	124	124	CONF605	
12/02/77		13:20	6.72	3.50	125	125	CONF201	
12/02/77		13:52	13.50	.93	126	126	CONF210	
12/02/77		14:00	7.07	.92	127	127	CONF605	
12/02/77		14:06	5.08	1.52	128	128	CONF307	
12/02/77		14:08	.48	.48	129	129	CONF302	
12/02/77		14:09	.52	1.43	130	130	CONF307	
12/02/77		14:12	1.57	3.42	131	131	CONF300	
12/02/77		14:18	2.10	3.90	132	132	CONF409	
12/02/77		14:24	2.10	.38	133	133	CONF202	
12/02/77		14:25	.62	1.10	134	134	CONF401	
12/02/77		14:43	.98	.47	135	135	CONF605	
12/02/77		14:54	10.32	.38	136	136	CONF605	
12/02/77		14:57	2.62	.28	137	137	CONF605	
12/02/77			END OF SHIFT AT 15:00					
12/05/77	07:27							
12/05/77		08:21	2.72	11.00	138	138	CONF406	
12/05/77		08:32	0.00	.27	139	139	CONF605	
12/05/77		08:33	.73	1.23	140	140	CONF605	
12/05/77		08:35	.77	.40	141	141	CONF304	
12/05/77		08:36	.60	.77	142	142	CONF304	
12/05/77		08:37	.23	.92	143	143	CONF405	
12/05/77		08:43	5.08	1.02	144	144	CONF406	
12/05/77		08:51	6.98	3.57	145	145	CONF215	
12/05/77		09:03	8.07	3.88	146	146	CONF210	
12/05/77		09:12	2.25	8.18	147	147	CONF601	

MODULE 1 = BODY LOADING STATION 1 (CONTD) STATION 201 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBR	SYSTEM FAILURE NUMBER	FAILIRF MODF
12/05/77		09:49	9.82	1.15	148	148	CODF211
12/05/77		10:00	7.47	21.72	149	149	CODF215
12/05/77		10:24	2.28	2.20	150	150	CODF702
12/05/77		10:30	3.80	.33	151	151	CODF605
12/05/77		10:31	.67	1.22	152	152	CODF605
12/05/77		10:34	1.78	1.82	153	153	CODF608
12/05/77		10:36	.18	7.12	154	154	CODF210
12/05/77		10:44	.88	6.22	155	155	CODF210
12/05/77		10:54	3.78	.75	156	156	CODF60A
12/05/77		10:57	2.25	1.33	157	157	CODF902
12/05/77		10:59	.67	1.33	158	158	CODF210
12/05/77		11:03	2.67	3.85	159	159	CODF307
12/05/77		11:07	.15	.58	160	160	CODF505
12/05/77		11:09	1.42	.57	161	161	CODF505
12/05/77		12:06	17.43	1.17	162	162	CODF405
12/05/77		12:17	9.83	1.00	163	163	CODF401
12/05/77		12:19	1.00	.18	164	164	CODF401
12/05/77		12:22	2.82	.67	165	165	CODF401
12/05/77		12:50	27.33	.50	166	166	CODF605
12/05/77		12:53	2.10	.80	167	167	CODF605
12/05/77		13:15	21.20	.43	168	168	CODF605
12/05/77		14:03	32.57	.55	169	169	CODF605
12/05/77		14:17	13.45	2.02	170	170	CODF605
12/05/77		14:20	.98	.72	171	171	CODF605
12/05/77		14:23	1.93	.53	172	172	CODF901
12/05/77		14:25	1.47	1.12	173	173	CODF60A
12/05/77		14:32	5.88	.33	174	174	CODF605

END OF SHIFT AT 15:06

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77	07:27	07:52	4.00	3.83	1	175	CODF903
12/09/77		08:17	21.17	1.17	2	176	CODF901
12/09/77		08:20	1.83	.6A	3	177	CODF903
12/09/77		08:32	11.32	.8A	4	178	CODF901
12/09/77		08:38	5.12	5.22	5	179	CODF211
12/09/77		08:44	.78	2.50	6	180	LEAD CUP STARWHFFL JAM
12/09/77		08:47	.50	.80	7	181	CODF901
12/09/77		08:50	2.20	1.33	8	182	CODF901
12/09/77		09:01	9.67	.6A	9	183	CODF901
12/09/77		09:04	2.32	.7A	10	184	CODF901
12/09/77		09:09	4.22	1.17	11	185	CODF901
12/09/77		09:11	.83	1.02	12	186	CODF901
12/09/77		09:14	1.98	1.00	13	187	CODF211
12/09/77		09:15	0.00	4.13	14	188	CODF211
12/09/77		09:23	3.87	1.02	15	189	CODF200
12/09/77		09:52	12.98	10.22	16	190	CODF211
12/09/77		10:03	.78	1.03	17	191	CODF411
12/09/77		10:05	.97	1.12	18	192	CODF411
12/09/77		10:08	1.88	7.02	19	193	CODF400
12/09/77		10:17	1.98	.97	20	194	CODF401
12/09/77		10:19	1.03	.67	21	195	CODF401
12/09/77		10:21	1.33	2.05	22	196	CODF400
12/09/77		10:24	.95	.50	23	197	CODF302
12/09/77		10:26	1.50	.35	24	198	CODF304
12/09/77		10:28	1.65	7.02	25	199	CODF410
12/09/77		10:45	9.98	1.2A	26	200	CODF410
12/09/77		10:48	1.72	1.92	27	201	CODF410
12/09/77		10:53	3.08	3.43	28	202	CODF410
12/09/77		11:00	3.57	1.83	29	203	CODF410
12/09/77		11:08	6.17	11.93	30	204	CODF410
12/09/77		12:22	22.07	2.30	31	205	CODF411
12/09/77		12:28	3.70	1.72	32	206	CODF411
12/09/77		12:30	.28	.83	33	207	CODF411
12/09/77		12:35	4.17	.93	34	208	CODF901
12/09/77		12:45	9.07	.75	35	209	CODF901
12/09/77		12:56	10.25	3.95	36	210	CODF410
12/09/77		13:01	1.05	1.03	37	211	CODF401
12/09/77		13:03	.97	.37	38	212	CODF307
12/09/77		13:09	5.63	2.53	39	213	CODF215

MODULE 2 = BODY LOADING STATION 2 (CONTD) STATION 202 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77		13:13	1.47	.57	40	214	CODF107
12/09/77		13:18	4.43	.83	41	215	CODF903
12/09/77		13:19	.17	.55	42	216	CODF307
12/09/77		13:27	7.45	.22	43	217	CODF307
12/09/77		13:51	8.78	.77	44	218	CODF902
12/09/77		13:52	.23	.27	45	219	CODF307
12/09/77		13:54	1.73	.31	46	220	CODF307
12/09/77		13:55	.67	1.10	47	221	CODF307
12/09/77		14:00	3.90	2.5A	48	222	CODF212
12/09/77		14:11	8.42	.50	49	223	CODF903
12/09/77		14:16	4.50	.70	50	224	CODF401
12/09/77		14:34	17.30	.62	51	225	CODF401
12/09/77		14:40	5.38	.97	52	226	CODF401
12/09/77		14:51	10.03	2.47	53	227	CODF507
12/09/77		14:55	1.53	.47	54	228	CODF502
12/09/77		14:56	.53	.27	55	229	CODF502
12/09/77		14:57	.73	1.13	56	230	CODF401
12/09/77		14:59	.87	.27	57	231	CODF502

ENO OF SHIFT AT 15:08							

12/12/77	07:27	07:55	9.73	.50	58	232	CODF902
12/12/77		07:56	.50	.4A	59	233	CODF404
12/12/77		08:15	17.48	1.50	60	234	CODF901
12/12/77		08:20	3.50	1.02	61	235	CODF903
12/12/77		08:22	.98	.82	62	236	CODF901
12/12/77		08:42	18.82	.4A	63	237	CODF605
12/12/77		08:46	2.45	1.27	64	238	CODF903
12/12/77		08:48	.73	1.0A	65	239	CODF903
12/12/77		09:04	14.92	.55	66	240	CODF903
12/12/77		09:05	.45	.52	67	241	CODF903
12/12/77		10:18	42.48	.82	68	242	CODF901
12/12/77		10:22	3.18	.2A	69	243	CODF30A
12/12/77		10:23	.72	.43	70	244	CODF30A
12/12/77		10:25	1.57	9.87	71	245	CODF500
12/12/77		10:50	15.13	.7A	72	246	CODF901
12/12/77		11:17	26.22	1.50	73	247	CODF600
12/12/77		11:20	1.50	1.05	74	248	CODF903
12/12/77		11:22	.95	2.07	75	249	CODF903
12/12/77		12:14	9.55	.80	76	250	CODF901

MODULE 2 = BODY LOADING STATION 2 (CONTD) STATION 202 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODE
12/12/77		12:45	29.53	1.05	77	251	CODE903
12/12/77		12:47	.95	.6A	7A	252	CODE903
12/12/77		12:48	.32	.80	79	253	CODE901
12/12/77		12:49	.20	.55	80	254	CODE901
12/12/77		12:51	1.45	1.13	81	255	CODE901
12/12/77		13:11	18.23	.93	82	256	CODE901
12/12/77		13:13	1.07	1.32	83	257	CODE903
12/12/77		13:15	.68	1.33	84	25A	CODE903
12/12/77		13:19	2.67	1.02	85	259	CODE401
12/12/77		13:23	2.98	2.47	86	260	CODE211
12/12/77		13:55	12.67	1.63	87	261	CODE304
12/12/77		14:04	3.97	.82	8A	262	CODE903
12/12/77		14:14	8.27	.83	89	263	CODE401
12/12/77		14:17	2.17	5.53	90	264	CODE507
12/12/77		14:25	2.47	.97	91	265	CODE505
12/12/77		14:27	1.03	1.27	92	266	CODE903
12/12/77		15:03	34.73	.77	93	267	CODE605
12/12/77		15:0A	4.23	.65	94	26A	CODE303
END OF SHIFT AT 15:10							
12/14/77	07:27	07:42	1.35	1.60	95	269	CODE903
12/14/77		07:44	.40	1.50	96	270	CODE903
12/14/77		07:50	4.50	1A.9A	97	271	CODE900
12/14/77		08:19	10.02	1.55	9A	272	CODE211
12/14/77		08:34	13.45	1.05	99	273	CODE901
12/14/77		08:45	9.95	9.97	100	274	CODE200
12/14/77		08:57	2.03	.35	101	275	CODE901
12/14/77		08:5A	.65	2.53	102	276	CODE903
12/14/77		09:06	5.47	1.35	103	277	CODE903
12/14/77		09:11	3.65	3.20	104	27A	CODE903
12/14/77		09:16	1.80	.50	105	279	CODE903
12/14/77		09:47	13.50	5.00	106	280	CODE406
12/14/77		10:06	13.68	.92	107	2A1	CODE903
12/14/77		10:34	27.08	.87	10A	2A2	CODE903
12/14/77		10:51	15.70	.53	109	2A3	CODE903
12/14/77		10:54	2.47	2.75	110	2A4	CODE409
12/14/77		10:59	2.25	1.1A	111	2A5	CODE903
12/14/77		11:04	3.82	.45	112	2A6	CODE307
12/14/77		11:07	2.55	.33	113	2A7	CODE307

MODULE 2 = BODY LOADING STATION 2 (CONTD) STATION 202 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77		11:14	6.67	.37	114	288	CODF903
12/14/77		12:05	10.63	.58	115	289	CODF307
12/14/77		12:11	5.42	.97	116	290	CODF901
12/14/77		12:21	9.03	.48	117	291	CODF903
12/14/77		12:26	4.17	.47	118	292	CODF903
12/14/77		12:31	4.53	.82	119	293	CODF401
12/14/77		12:54	18.20	1.63	120	294	CODF402
12/14/77		13:05	9.37	4.68	121	295	CODF507
12/14/77		14:42	65.42	.72	122	296	CODF600
12/14/77		14:45	2.28	.72	123	297	CODF901

END OF SHIFT AT 15:06							

12/15/77	07:27						
12/15/77		07:55	21.28	1.02	124	298	CODF902
12/15/77		07:57	.98	1.17	125	299	CODF902
12/15/77		08:00	1.83	.50	126	300	CODF902
12/15/77		08:01	.50	.57	127	301	CODF401
12/15/77		08:04	2.43	1.12	128	302	CODF903
12/15/77		08:10	4.88	3.20	129	303	CODF402
12/15/77		08:26	12.80	.72	130	304	CODF901
12/15/77		08:27	.28	1.72	131	305	CODF401
12/15/77		08:33	4.28	.75	132	306	CODF401
12/15/77		08:50	16.25	.82	133	307	CODF507
12/15/77		08:51	.18	1.25	134	308	CODF507
12/15/77		08:53	.75	5.20	135	309	CODF402
12/15/77		08:59	.80	.72	136	310	CODF507
12/15/77		09:00	.28	2.62	137	311	CODF507
12/15/77		09:03	.38	8.40	138	312	CODF402
12/15/77		09:12	.60	3.43	139	313	CODF500
12/15/77		09:20	4.57	2.40	140	314	CODF304
12/15/77		09:27	3.85	2.42	141	315	CODF212
12/15/77		10:13	26.83	4.90	142	316	CODF210
12/15/77		10:29	10.77	4.12	143	317	CODF210
12/15/77		11:03	29.42	1.48	144	318	CODF401
12/15/77		11:19	14.52	.67	145	319	CODF210
12/15/77		11:21	1.33	1.33	146	320	CODF411
12/15/77		12:05	2.67	3.13	147	321	CODF215
12/15/77		12:17	8.87	3.42	148	322	CODF903
12/15/77		12:21	.58	4.20	149	323	CODF400
12/15/77		12:31	5.80	4.12	150	324	CODF903

MODULE 2 = BODY LOADING STATION 2 (CONTD) STATION 202 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBR	SYSTEM FAILURE NUMBR	FAILURE MODE
12/15/77		12:41	5.88	1.17	151	325	CONF901
12/15/77		12:43	.83	.90	152	326	CONF210
12/15/77		12:51	7.10	2.12	153	327	CONF903
12/15/77		12:58	4.38	4.75	154	328	CONF903
12/15/77		13:04	1.25	1.82	155	329	CONF903
12/15/77		13:21	15.18	1.17	156	330	CONF903
12/15/77		13:25	2.83	1.50	157	331	CONF903
12/15/77		13:51	9.50	.40	158	332	CONF903
12/15/77		14:04	12.60	.88	159	333	CONF903
12/15/77		14:06	1.12	2.22	160	334	CONF211
12/15/77		14:20	11.78	.77	161	335	CONF903
12/15/77		14:23	2.23	.32	162	336	CONF802
12/15/77		14:31	7.68	.82	163	337	CONF903
12/15/77		14:41	9.18	.87	164	338	CONF210
12/15/77		14:52	10.13	13.12	165	339	CONF211
12/15/77		15:06	.88	.31	166	340	CONF211
12/15/77		15:08	1.67	.53	167	341	CONF901
END OF SHIFT AT 15:10							
12/16/77	07:27	08:09	12.95	6.98	168	342	CONF210
12/16/77		08:25	7.90	1.20	169	343	CONF406
12/16/77		08:33	6.25	.47	170	344	CONF903
12/16/77		08:34	.53	4.25	171	345	CONF402
12/16/77		08:42	3.75	.52	172	346	CONF903
12/16/77		09:06	23.03	3.75	173	347	CONF211
12/16/77		09:14	4.25	.88	174	348	CONF901
12/16/77		10:28	56.55	.75	175	349	CONF405
12/16/77		10:51	21.82	4.41	176	350	CONF402
12/16/77		10:59	3.25	1.05	177	351	CONF604
12/16/77		11:08	7.95	.88	178	352	CONF411
12/16/77		11:10	1.12	.88	179	353	CONF411
12/16/77		11:15	4.12	6.83	180	354	CONF507
12/16/77		12:09	7.17	.57	181	355	CONF211
12/16/77		12:13	3.43	4.47	182	356	CONF803
12/16/77		12:28	10.53	1.00	183	357	CONF211
12/16/77		13:05	4.72	4.48	184	358	CONF211
12/16/77		13:13	3.52	.63	185	359	CONF901
12/16/77		13:22	8.37	3.07	186	360	CONF101
12/16/77		13:51	10.57	7.82	187	361	CONF211

MODULE 3 = BODY LOADING STATION 3 STATION 203 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/29/77	07:27	08:13	25.00	1.10	1	372	CODE405
11/29/77		08:15	.90	1.20	2	373	CODE902
11/29/77		08:21	2.73	3.60	3	374	CODE604
11/29/77		08:29	4.40	.8A	4	375	CODE305
11/29/77		08:31	1.12	10.72	5	376	CODE601
11/29/77		08:42	.28	.87	6	377	CODE305
11/29/77		09:25	3.37	3.50	7	378	CODE601
11/29/77		09:51	2.50	7.12	8	379	CODE601
11/29/77		10:02	3.88	.20	9	380	CODE902
11/29/77		10:21	18.80	.65	10	381	CODE605
11/29/77		10:49	27.35	1.00	11	382	CODE605
11/29/77		10:54	4.00	.55	12	383	CODE506
11/29/77		10:55	.45	1.43	13	384	CODE604
11/29/77		11:00	3.57	.82	14	385	CODE605
11/29/77		12:18	32.55	.47	15	386	CODE902
11/29/77		12:24	5.53	.87	16	387	CODE103
11/29/77		12:25	.13	.47	17	388	CODE605
11/29/77		12:27	1.53	1.82	18	389	CODE401
11/29/77		12:36	7.18	.73	19	390	CODE902
11/29/77		12:45	8.27	1.5A	20	391	CODE408
11/29/77		12:50	3.42	1.22	21	392	CODE701
11/29/77		12:58	6.78	.25	22	393	CODE902
11/29/77		13:05	6.75	.63	23	394	CODE605
11/29/77		13:07	1.37	1.5A	24	395	CODE502
11/29/77		13:46	22.42	1.10	25	396	CODE902
11/29/77		14:19	31.90	1.12	26	397	CODE902
11/29/77		14:22	1.88	1.2A	27	398	CODE210
11/29/77		14:30	6.72	.80	28	399	CODE604
11/29/77		14:49	18.20	.82	29	400	CODE604
11/29/77		14:54	4.18	.92	30	401	CODE401
11/29/77		14:59	4.08	3.43	31	402	CODE408
END OF SHIFT AT 15:15							
11/30/77	07:27	08:11	13.77	1.20	32	403	CODE501
11/30/77		08:13	.80	1.7A	33	404	CODE401
11/30/77		08:21	6.22	.50	34	405	CODE408
11/30/77		08:25	3.50	1.6A	35	406	CODE604
11/30/77		08:29	2.32	.80	36	407	CODE605

MODULE 2 = BODY LOADING STATION 2 (CONTD) STATION 202 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/16/77		14:01	2.18	3.53	18R	362	CODEF211
12/16/77		14:10	5.47	1.07	189	363	CODE605
12/16/77		14:13	1.93	1.52	190	364	CODEF411
12/16/77		14:15	.48	3.95	191	365	CODEF411
12/16/77		14:21	2.05	.6R	192	366	CODEF211
12/16/77		14:22	.32	.80	193	367	CODEF211
12/16/77		14:32	9.20	.8R	194	368	CODEF401
12/16/77		14:34	1.12	.87	195	369	CODEF901
12/16/77		14:48	13.13	1.12	196	370	CODEF409
12/16/77		14:52	2.88	1.87	197	371	CODEF409
END OF SHIFT AT 15:07							

MODULE 3 = BODY LOADING STATION 3 (CONTD) STATION 203 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		08:34	4.20	1.50	37	408	CODE30A
11/30/77		08:36	.50	2.60	38	409	CODE30A
11/30/77		08:41	2.40	1.17	39	410	CODE30A
11/30/77		08:44	1.83	4.20	40	411	CODE30A
11/30/77		08:54	5.80	.07	41	412	CODE30A
11/30/77		08:56	1.93	.43	42	413	CODE307
11/30/77		09:55	32.07	8.20	43	414	CODE212
11/30/77		10:11	7.80	.58	44	415	CODE703
11/30/77		10:25	13.42	3.40	45	416	CODE40A
11/30/77		10:34	5.60	15.40	46	417	CODE40A
11/30/77		11:00	10.60	.88	47	418	CODE401
11/30/77		11:02	1.12	.85	48	419	CODE604
11/30/77		11:08	5.15	3.42	49	420	CODE40A
11/30/77		11:13	1.58	1.57	50	421	CODE703
11/30/77		11:18	3.43	.83	51	422	CODE401
11/30/77		12:13	14.17	.57	52	423	CODE902
11/30/77		12:19	5.43	3.05	53	424	CODE703
11/30/77		12:41	18.95	.95	54	425	CODE604
11/30/77		12:45	3.05	.87	55	426	CODE401
11/30/77		12:53	7.13	1.13	56	427	CODE605
11/30/77		12:55	.87	1.07	57	428	CODE902
11/30/77		14:25	68.93	.68	58	429	CODE401
11/30/77		14:40	14.32	3.15	59	430	CODE404
11/30/77		14:55	11.85	4.47	60	431	CODE40A
END OF SHIFT AT 15:00							
12/01/77	07:27						
12/01/77		07:56	6.53	1.35	61	432	CODE601
12/01/77		07:58	.65	1.13	62	433	CODE902
12/01/77		08:00	.87	1.73	63	434	CODE401
12/01/77		08:05	3.27	1.32	64	435	CODE902
12/01/77		08:13	6.68	1.28	65	436	CODE902
12/01/77		08:16	1.72	.52	66	437	CODE902
12/01/77		08:17	.48	.77	67	438	CODE902
12/01/77		08:25	7.23	1.10	68	439	CODE902
12/01/77		09:51	4.90	1.25	69	440	CODE902
12/01/77		09:54	1.75	.88	70	441	CODE605
12/01/77		09:56	1.12	.87	71	442	CODE903
12/01/77		10:10	13.13	.93	72	443	CODE701
12/01/77		10:20	9.07	.45	73	444	CODE304

MODULE 3 = BODY LOADING STATION 3 (CONTD) STATION 203 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/01/77		10:25	4:55	1:2A	74	445	CODF215
12/01/77		10:34	7:72	4:75	75	446	CODF405
12/01/77		10:40	1:25	3:50	76	447	CODF902
12/01/77		11:08	24:50	2:43	77	448	CODF210
12/01/77		12:06	15:57	6:12	78	449	CODF402
12/01/77		12:24	11:88	5:2A	79	450	CODF212
12/01/77		12:34	4:72	4:45	80	451	CODF212
12/01/77		12:41	2:55	.52	81	452	CODF902
12/01/77		13:00	18:48	2:10	82	453	CODF212
12/01/77		13:10	7:90	.8A	83	454	CODF212
12/01/77		13:12	1:12	.65	84	455	CODF605
12/01/77		13:17	4:35	1:32	85	456	CODF210
12/01/77		13:23	4:68	.8A	86	457	CODF212
12/01/77		13:25	1:12	1:63	87	458	CODF212
12/01/77		14:25	43:37	.57	88	459	CODF902
12/01/77		14:40	14:43	1:6A	89	460	CODF609
12/01/77		14:54	12:32	.50	90	461	CODF902
12/01/77		15:05	10:50	5:00	91	462	CODF212
END OF SHIFT AT 15:10							
12/02/77	07:27	07:52	2:00	7:95	92	463	CODF502
12/02/77		08:05	5:05	.50	93	464	CODF902
12/02/77		08:0A	2:50	.87	94	465	CODF902
12/02/77		08:09	.13	.67	95	466	CODF212
12/02/77		08:11	1:33	6:97	96	467	CODF402
12/02/77		08:19	1:03	1:02	97	468	CODF902
12/02/77		08:21	.98	.5A	9A	469	CODF902
12/02/77		08:26	4:42	.83	99	470	CODF902
12/02/77		08:39	12:17	.70	100	471	CODF700
12/02/77		08:41	1:30	3:17	101	472	CODF609
12/02/77		08:50	5:83	.6A	102	473	CODF902
12/02/77		08:55	4:32	.52	103	474	CODF605
12/02/77		09:0A	12:48	6:57	104	475	CODF212
12/02/77		09:19	4:43	.5A	105	476	CODF902
12/02/77		10:09	34:42	.65	106	477	CODF902
12/02/77		10:15	5:35	4:95	107	478	CODF200
12/02/77		10:21	1:05	.52	10A	479	CODF212
12/02/77		10:30	8:48	2:8A	109	480	CODF210
12/02/77		10:34	1:12	1:00	110	481	CODF902

MODULF 3 = BODY LOADING STATION 3 (CONTD) STATION 203 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77	10:39	4:00	1:23	111	482	482	CODF902
12/02/77	10:41	.77	1:23	112	483	483	CODF902
12/02/77	10:50	7:77	1:83	113	484	484	CODF902
12/02/77	11:02	10:17	.77	114	485	485	CODF902
12/02/77	11:10	7:23	.82	115	486	486	CODF902
12/02/77	11:19	8:18	1:08	116	487	487	CODF902
12/02/77	12:13	12:92	.15	117	488	488	CODF402
12/02/77	12:27	13:85	.55	118	489	489	CODF902
12/02/77	12:29	1:45	.68	119	490	490	CODF902
12/02/77	12:58	28:32	.68	120	491	491	CODF902
12/02/77	13:46	32:32	.92	121	492	492	CODF902
12/02/77	13:48	1:08	.53	122	493	493	CODF902
12/02/77	14:08	19:47	2:50	123	494	494	CODF210
12/02/77	14:11	.50	4:25	124	495	495	CODF200
12/02/77	14:25	9:75	.37	125	496	496	CODF902
12/02/77	14:40	14:63	.53	126	497	497	CODF902
12/02/77	14:42	1:47	.68	127	498	498	CODF902
12/02/77	14:48	5:32	.82	128	499	499	CODF902
12/02/77	14:52	3:18	3:40	129	500	500	CODF200
END OF SHIFT AT 15:00							
12/14/77	07:39	4:60	2:48	130	501	501	CODF505
12/14/77	07:56	14:52	.77	131	502	502	CODF203
12/14/77	07:58	1:23	.85	132	503	503	CODF401
12/14/77	08:01	2:15	.52	133	504	504	CODF902
12/14/77	08:04	2:48	.83	134	505	505	CODF700
12/14/77	08:05	.17	.63	135	506	506	CODF700
12/14/77	08:10	4:37	2:12	136	507	507	CODF700
12/14/77	08:13	.88	.68	137	508	508	CODF902
12/14/77	08:14	.32	1:18	138	509	509	CODF305
12/14/77	08:16	.78	.82	139	510	510	CODF401
12/14/77	08:17	.22	.52	140	511	511	CODF703
12/14/77	08:19	1:48	3:37	141	512	512	CODF600
12/14/77	08:28	5:63	8:02	142	513	513	CODF408
12/14/77	08:39	2:98	.72	143	514	514	CODF701
12/14/77	08:54	14:28	4:93	144	515	515	CODF210
12/14/77	09:01	2:07	1:08	145	516	516	CODF408
12/14/77	09:03	.92	.52	146	517	517	CODF203
12/14/77	09:05	1:48	.57	147	518	518	CODF703

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77	09:14		8.43	.48	148	519	C00F203
12/14/77	09:16		1.52	.92	149	520	C00F203
12/14/77	10:04		27.08	.62	150	521	C00F902
12/14/77	10:08		3.38	.40	151	522	C00F605
12/14/77	10:15		6.60	.48	152	523	C00F203
12/14/77	10:16		.52	1.27	153	524	C00F210
12/14/77	10:21		3.73	.93	154	525	C00F401
12/14/77	10:25		3.07	.50	155	526	C00F605
12/14/77	10:26		.50	.92	156	527	C00F902
12/14/77	10:30		3.08	1.40	157	528	C00F103
12/14/77	10:41		9.60	.63	158	529	C00F605
12/14/77	10:55		11.08	1.02	159	530	C00F210
12/14/77	11:11		14.98	1.72	160	531	C00F502
12/14/77	12:08		20.28	.42	161	532	C00F902
12/14/77	12:22		13.58	4.65	162	533	C00F210
12/14/77	12:27		.35	3.00	163	534	C00F408
12/14/77	12:31		1.00	5.12	164	535	C00F408
12/14/77	12:59		20.45	2.78	165	536	C00F700
12/14/77	13:04		2.22	6.68	166	537	C00F401
12/14/77	13:20		9.32	2.48	167	538	C00F210
12/14/77	13:23		.52	.62	168	539	C00F502
12/14/77	13:25		1.38	4.38	169	540	C00F408
12/14/77	13:52		5.62	4.37	170	541	C00F900
12/14/77	14:02		5.63	4.10	171	542	C00F210
12/14/77	14:47		31.78	2.12	172	543	C00F502

END OF SHIFT AT 15:10

MODULE 4 = BODY LOADING STATION 4 STATION 204 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODE
12/05/77	07:27	08:06	1.00	.83	1	544	CODF405
12/05/77		08:15	1.92	4.41	2	545	CODF300
12/05/77		08:24	4.57	.62	3	546	CODF502
12/05/77		08:30	5.38	2.28	4	547	CODF902
12/05/77		08:40	7.72	.31	5	548	CODF203
12/05/77		08:50	9.67	6.07	6	549	CODF211
12/05/77		09:00	3.93	.83	7	550	CODF902
12/05/77		09:02	1.17	.87	8	551	CODF502
12/05/77		09:05	2.13	4.10	9	552	CODF211
12/05/77		09:14	4.90	1.40	10	553	CODF211
12/05/77		09:16	.60	.67	11	554	CODF902
12/05/77		09:17	.33	.67	12	555	CODF902
12/05/77		09:20	2.33	.42	13	556	CODF203
12/05/77		09:27	6.58	.58	14	557	CODF902
12/05/77		09:46	3.42	9.22	15	558	CODF212
12/05/77		10:28	6.93	.53	16	559	CODF902
12/05/77		10:30	1.47	.55	17	560	CODF902
12/05/77		10:34	3.45	2.68	18	561	CODF902
12/05/77		10:37	.32	14.12	19	562	CODF210
12/05/77		10:57	5.88	2.28	20	563	CODF210
12/05/77		11:00	.72	1.87	21	564	CODF200
12/05/77		11:09	7.13	1.50	22	565	CODF902
12/05/77		11:11	.50	3.20	23	566	CODF303
12/05/77		11:15	.80	.40	24	567	CODF203
12/05/77		12:06	10.60	1.00	25	568	CODF404
12/05/77		12:07	0.00	3.92	26	569	CODF300
12/05/77		12:18	7.08	.90	27	570	CODF902
12/05/77		12:32	13.10	.62	28	571	CODF408
12/05/77		12:36	3.38	.27	29	572	CODF902
12/05/77		12:38	1.73	.87	30	573	CODF902
12/05/77		12:40	1.13	.63	31	574	CODF902
12/05/77		12:42	1.37	.62	32	575	CODF203
12/05/77		12:48	5.38	.50	33	576	CODF900
12/05/77		13:09	20.50	.72	34	577	CODF902
12/05/77		13:11	1.28	.92	35	578	CODF902
12/05/77		13:13	1.08	2.43	36	579	CODF902
12/05/77		13:46	15.57	2.33	37	580	CODF703
12/05/77		14:20	31.67	.28	38	581	CODF605
12/05/77		14:21	.72	1.25	39	582	CODF605

MODULE 4 = BODY LOADING STATION 4 (CONTD) STATION 204 AT LSAAP

OATF	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF	
12/05/77		14:30	7.75	1.43	40	583	CODF302	
12/05/77		14:32	.57	1.10	41	584	CODF404	
12/05/77		14:35	1.90	.50	42	585	CODF302	
12/05/77		14:37	1.50	7.90	43	586	CODF601	
12/05/77		15:00	15.10	.20	44	587	CODF203	
12/05/77		END OF SHIFT AT 15:06						
12/06/77	07:27							
12/06/77		08:06	9.80	.53	45	588	CODF203	
12/06/77		08:14	7.47	.43	46	589	CODF203	
12/06/77		08:20	5.57	.52	47	590	CODF203	
12/06/77		08:29	8.48	.55	48	591	CODF203	
12/06/77		08:42	12.45	3.50	49	592	CODF303	
12/06/77		09:02	16.50	1.37	50	593	CODF901	
12/06/77		09:04	.63	6.13	51	594	CODF502	
12/06/77		09:19	8.87	.87	52	595	CODF606	
12/06/77		09:50	15.13	5.10	53	596	CODF212	
12/06/77		09:58	2.90	1.10	54	597	CODF303	
12/06/77		10:00	.90	1.32	55	598	CODF303	
12/06/77		10:02	.68	.87	56	599	CODF105	
12/06/77		10:03	.13	.58	57	600	CODF105	
12/06/77		10:05	1.42	.58	58	601	CODF203	
12/06/77		10:15	3.83	.53	59	602	CODF203	
12/06/77		10:20	4.47	.45	60	603	CODF203	
12/06/77		10:24	3.55	.58	61	604	CODF203	
12/06/77		10:26	1.42	2.17	62	605	CODF303	
12/06/77		11:01	20.30	4.28	63	606	CODF901	
12/06/77		11:13	7.72	.48	64	607	CODF203	
12/06/77		END OF SHIFT AT 15:15						
12/14/77	07:27							
12/14/77		08:04	5.52	2.72	65	608	CODF401	
12/14/77		08:08	1.28	.88	66	609	CODF401	
12/14/77		08:10	1.12	.67	67	610	CODF902	
12/14/77		08:11	.33	.57	68	611	CODF902	
12/14/77		08:13	1.43	2.00	69	612	CODF902	
12/14/77		08:15	0.00	2.43	70	613	CODF215	
12/14/77		08:18	.57	1.15	71	614	CODF405	
12/14/77		08:21	1.85	.50	72	615	CODF203	
12/14/77		08:35	13.50	.88	73	616	CODF401	

MODULE 4 = BODY LOADING STATION 4 (CONTD) STATION 204 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77	08:37	11:12	1.58	74	617		CODF307
12/14/77	08:50	11:42	.28	75	618		CODF401
12/14/77	08:51	.72	7.88	76	619		CODF210
12/14/77	09:00	1.12	.82	77	620		CODF401
12/14/77	09:05	4.18	.88	78	621		CODF303
12/14/77	09:09	3.12	3.08	79	622		CODF401
12/14/77	09:14	1.35	.63	80	623		CODF203
12/14/77	09:16	1.37	1.82	81	624		CODF203
12/14/77	09:45	2.18	.25	82	625		CODF401
12/14/77	12:45	.75	.23	83	626		CODF303
12/14/77	13:01	15.05	.37	84	627		CODF203
12/14/77	13:09	7.63	.33	85	628		CODF203
12/14/77	13:18	4.40	10.00	86	629		CODF601
12/14/77	13:50	6.60	.77	87	630		CODF902
12/14/77	13:56	.72	5.62	88	631		CODF902
12/14/77	14:04	1.45	3.72	89	632		CODF406
12/14/77	14:08	.28	1.95	90	633		CODF400
12/14/77	14:11	1.05	2.20	91	634		CODF303
12/14/77	14:16	1.80	19.00	92	635		CODF601
12/14/77	14:40	5.00	1.00	93	636		CODF402
12/14/77	14:42	1.00	1.85	94	637		CODF402
12/14/77	14:44	.15	3.03	95	638		CODF902
END OF SHIFT AT 14:50							
12/15/77	07:27	14.38	8.58	96	639		CODF601
12/15/77	08:42	1.42	.43	97	640		CODF203
12/15/77	08:52	7.57	1.28	98	641		CODF902
12/15/77	09:00	30.47	4.05	99	642		CODF210
12/15/77	09:50	3.95	2.82	100	643		CODF210
12/15/77	09:58	.18	.72	101	644		CODF902
12/15/77	10:01	1.28	1.68	102	645		CODF300
12/15/77	10:03	1.32	1.33	103	646		CODF902
12/15/77	10:06	.67	10.68	104	647		CODF210
12/15/77	10:08	6.32	3.13	105	648		CODF503
12/15/77	10:25	1.87	6.52	106	649		CODF210
12/15/77	10:30	1.48	1.55	107	650		CODF902
12/15/77	10:38	.45	7.43	108	651		CODF402
12/15/77	10:40	8.93	.93	109	652		CODF902
12/15/77	11:00	4.98	.62	110	653		CODFA01

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MOULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		11:20	11:38	4.27	111	654	COOF210
12/15/77		12:12	7.73	1.30	112	655	COOF902
12/15/77		12:19	5.70	.80	113	656	COOF504
12/15/77		12:25	5.20	.7A	114	657	COOF902
12/15/77		12:38	11:32	17.00	115	658	COOF210
12/15/77		14:35	42.98	2.27	116	659	COOF609
12/15/77		14:41	3.37	4.52	117	660	COOF210
12/15/77		14:55	9.48	10.6A	11A	661	COOF210
END OF SHIFT AT 15:15							
12/16/77	07:27						
12/16/77		0A:30	4.32	2.00	119	662	COOF604
12/16/77		0A:35	3.00	1.40	120	663	COOF401
12/16/77		0A:37	.60	5.43	121	664	COOF401
12/16/77		0A:44	1.57	.92	122	665	COOF201
12/16/77		0A:50	5.08	8.82	123	666	COOF601
12/16/77		11:01	2.18	.95	124	667	COOF902
12/16/77		11:03	1.05	.80	125	668	COOF302
12/16/77		11:05	1.20	.62	126	669	COOF203
12/16/77		11:06	.38	1.8A	127	670	COOF40A
12/16/77		11:13	5.12	1.40	128	671	COOF401
12/16/77		11:15	.60	1.53	129	672	COOF210
12/16/77		12:05	8.15	15.00	130	673	COOF210
12/16/77		12:24	3.63	1.60	131	674	COOF40A
12/16/77		13:17	9.57	.52	132	675	COOF504
12/16/77		13:18	.48	.80	133	676	COOF504
12/16/77		13:20	1.20	.85	134	677	COOF401
12/16/77		13:22	1.15	1.45	135	678	COOF401
12/16/77		13:51	10.87	14.00	136	679	COOF210
12/16/77		14:15	10.00	1.20	137	680	COOF902
12/16/77		14:24	6.75	2.00	138	681	COOF210
12/16/77		14:35	8.50	.2A	139	682	COOF902
12/16/77		14:55	19.72	.65	140	683	COOF203
12/16/77		15:00	4.35	.27	141	684	COOF215
END OF SHIFT AT 15:15							

MODULE 5 = BODY LOADING STATION 5

STATION 205 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77	07:27	07:49	4.00	1.93	1	685	CONF302
12/07/77		07:56	4.07	1.10	2	686	CONF902
12/07/77		07:5A	.90	4.8A	3	687	CONF40A
12/07/77		0A:06	3.12	3.20	4	68A	CONF902
12/07/77		0A:11	1.80	.95	5	689	CONF902
12/07/77		0A:1A	6.05	1.2A	6	690	CONF504
12/07/77		0A:42	6.50	1.75	7	691	CONF503
12/07/77		09:50	7.87	2.8A	8	692	CONF404
12/07/77		09:55	2.12	4.62	9	693	CONF404
12/07/77		10:01	1.38	1.22	10	694	CONF601
12/07/77		10:03	.78	.85	11	695	CONF603
12/07/77		11:12	8.15	1.95	12	696	CONF302
12/07/77		11:20	6.05	1.47	13	697	CONF303
12/07/77		12:15	13.53	3.5A	14	69A	CONF40A
12/07/77		12:23	4.42	.62	15	699	CONF40A
12/07/77		12:25	1.38	.85	16	700	CONF203
12/07/77		12:27	1.15	.82	17	701	CONF902
12/07/77		12:29	1.1A	3.8A	18	702	CONF602
12/07/77		12:33	.12	.32	19	703	CONF503
12/07/77		12:34	.68	.85	20	704	CONF503
12/07/77		12:40	5.15	3.05	21	705	CONF503
12/07/77		12:44	.95	1.52	22	706	CONF802
12/07/77		12:49	3.48	1.20	23	707	CONF503
12/07/77		12:51	.80	1.40	24	708	CONF405
12/07/77		12:55	2.60	1.83	25	709	CONF300
12/07/77		12:5A	1.17	2.33	26	710	CONF404
12/07/77		13:01	.67	1.00	27	711	CONF503
12/07/77		13:17	15.00	.92	28	712	CONF203
12/07/77		13:19	1.08	.2A	29	713	CONF304
12/07/77		13:20	.72	1.2A	30	714	CONF404
12/07/77		13:27	5.72	1.67	31	715	CONF400
12/07/77		13:51	7.33	.63	32	716	CONF303
12/07/77		14:00	8.37	1.25	33	717	CONF502
12/07/77		14:02	.75	.93	34	71A	CONF304
12/07/77		14:05	2.07	4.8A	35	719	CONF210
12/07/77		14:15	5.12	1.00	36	720	CONF407
12/07/77		14:2A	12.00	1.65	37	721	CONF503
12/07/77		14:30	.35	.85	3A	722	CONF606
12/07/77		14:35	4.15	.50	39	723	CONF304

MODULE 5 = BODY LOADING STATION 5 (CONTD) STATION 205 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
12/07/77		14:48	12:50	3:20	40	724	CODF408	
12/07/77		15:00	8:80	4:82	41	725	CODF211	
12/07/77			END OF SHIFT AT 15:15					
12/08/77	07:27							
12/08/77		08:15	25:50	.87	42	726	CODF304	
12/08/77		08:16	.13	.78	43	727	CODF304	
12/08/77		08:17	.22	.57	44	728	CODF304	
12/08/77		08:18	.43	7:40	45	729	CODF502	
12/08/77		08:26	.60	5:45	46	730	CODF402	
12/08/77		08:32	.55	2:32	47	731	CODF406	
12/08/77		08:35	.68	10:50	48	732	DISCONNECT NO 1 VACUUM MOTOR	
12/08/77		08:46	.50	1:87	49	733	CODF408	
12/08/77		08:50	2:13	.52	50	734	CODF304	
12/08/77		08:52	1:48	1:32	51	735	CODF304	
12/08/77		08:54	.68	2:75	52	736	CODF304	
12/08/77		08:57	.25	3:10	53	737	CODF401	
12/08/77		09:01	.90	1:03	54	738	CODF304	
12/08/77		09:03	.97	1:50	55	739	CODF405	
12/08/77		09:06	1:50	2:10	56	740	CODF304	
12/08/77		09:09	.90	.92	57	741	CODF304	
12/08/77		09:20	4:20	1:77	58	742	CODF408	
12/08/77		09:51	9:23	1:92	59	743	CODF606	
12/08/77		09:54	1:08	1:00	60	744	CODF601	
12/08/77		10:05	10:00	.58	61	745	CODF400	
12/08/77		10:23	17:42	.63	62	746	CODF203	
12/08/77		10:25	1:37	3:95	63	747	CODF304	
12/08/77		10:30	1:05	.52	64	748	CODF304	
12/08/77		10:40	9:48	2:87	65	749	CODF800	
12/08/77		10:44	1:13	.78	66	750	CODF203	
12/08/77		10:46	1:22	1:37	67	751	CODF203	
12/08/77		10:49	1:67	.77	68	752	CODF401	
12/08/77		10:58	8:23	.82	69	753	CODF902	
12/08/77		11:05	6:18	.57	70	754	CODF203	
12/08/77		11:09	3:43	.75	71	755	CODF203	
12/08/77		11:20	9:05	1:00	72	756	CODF502	
12/08/77		12:20	14:00	2:92	73	757	CODF900	
12/08/77		12:28	5:08	3:37	74	758	CODF604	
12/08/77		12:34	2:63	5:10	75	759	CODF210	
12/08/77		12:40	.90	1:28	76	760	CODF503	

MODULE 5 = BODY LOADING STATION 5 (CONTD) STATION 205 AT LSAAP

(CONTD)

STATION 205 AT LSAAP

MODULE 5 = BODY LOADING STATION 5

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/08/77		12:42	.72	1.28	77	761	CODF901
12/08/77		12:49	5.72	.75	78	762	CODF401
12/08/77		12:51	1.25	.88	79	763	CODF901
12/08/77		13:01	2.12	1.20	80	764	CODF901
12/08/77		13:03	.80	1.42	81	765	CODF210
12/08/77		13:06	1.58	1.40	82	766	CODF405
12/08/77		13:13	5.60	.80	83	767	CODF902
12/08/77		13:15	1.20	1.00	84	768	CODF406
12/08/77		13:20	4.00	1.83	85	769	CODF408
12/08/77		13:25	3.17	.75	86	770	CODF203
12/08/77		13:51	5.25	1.53	87	771	CODF210
12/08/77		13:53	.47	1.37	88	772	CODF203
12/08/77		14:00	5.63	.58	89	773	CODF203
12/08/77		14:04	3.42	1.28	90	774	CODF203
12/08/77		14:06	.72	.67	91	775	CODF203
12/08/77		14:10	3.33	2.25	92	776	CODF203
12/08/77		14:20	7.75	1.03	93	777	CODF210
12/08/77		14:25	3.97	1.50	94	778	CODF408
12/08/77		14:28	1.50	2.22	95	779	CODF503
12/08/77		14:32	1.78	8.32	96	780	CODF408
12/08/77		14:50	9.68	1.37	97	781	CODF210
12/08/77		15:00	8.63	.32	98	782	CODF215
END OF SHIFT AT 15:15							
12/09/77	07:27						
12/09/77		08:12	1.68	1.20	99	783	CODF902
12/09/77		08:19	5.80	.80	100	784	CODF902
12/09/77		08:21	1.20	2.00	101	785	CODF210
12/09/77		08:24	1.00	.67	102	786	CODF902
12/09/77		08:30	5.33	2.65	103	787	CODF203
12/09/77		08:34	1.35	1.00	104	788	CODF203
12/09/77		08:36	1.00	1.83	105	789	CODF902
12/09/77		08:40	2.17	1.68	106	790	CODF203
12/09/77		08:42	.32	.57	107	791	CODF604
12/09/77		08:44	1.43	1.48	108	792	CODF503
12/09/77		08:46	.52	.80	109	793	CODF902
12/09/77		08:47	.20	.87	110	794	CODF902
12/09/77		08:50	2.13	.87	111	795	CODF902
12/09/77		08:55	4.13	1.05	112	796	CODF401
12/09/77		09:00	3.95	.97	113	797	CODF902

MODULF 5 = RODY LOADING STATION 5 (CONTD) STATION 205 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77	09:05		4.03	1.10	114	798	CODF203
12/09/77	09:07		.90	4.10	115	799	CODF902
12/09/77	09:15		3.90	2.60	116	800	CODF902
12/09/77	09:20		2.40	.87	117	801	CODF902
12/09/77	09:50		14.13	.57	118	802	CODF203
12/09/77	09:53		2.43	1.92	119	803	CODF203
12/09/77	10:01		6.08	.67	120	804	CODF902
12/09/77	10:09		7.33	.68	121	805	CODF203
12/09/77	10:11		1.32	1.52	122	806	CODF201
12/09/77	10:14		1.48	7.00	123	807	CODF210
12/09/77	10:25		4.00	1.40	124	808	CODF401
12/09/77	10:35		8.60	1.02	125	809	CODF902
12/09/77	10:39		2.98	1.82	126	810	CODF401
12/09/77	10:41		.18	1.13	127	811	CODF203
12/09/77	10:43		.87	1.47	128	812	CODF203
12/09/77	10:45		.53	1.50	129	813	CODF902
12/09/77	10:48		1.50	4.95	130	814	CODF303
12/09/77	10:54		1.05	1.53	131	815	CODF210
12/09/77	11:00		3.83	.80	132	816	CODF902
12/09/77	11:02		1.20	3.27	133	817	CODF902
12/09/77	11:06		.73	1.25	134	818	CODF210
12/09/77	11:10		2.75	.75	135	819	CODF401
12/09/77	11:13		2.25	1.00	136	820	CODF203
12/09/77	11:15		1.00	.95	137	821	CODF203
12/09/77	11:18		2.05	1.53	138	822	CODF210
12/09/77	11:25		5.47	.25	139	823	CODF902
12/09/77	11:26		.75	.57	140	824	CODF605
12/09/77	11:28		1.43	.62	141	825	CODF605
12/09/77	12:11		2.38	1.53	142	826	CODF203
12/09/77	12:13		.47	1.02	143	827	CODF401
12/09/77	12:19		4.98	1.00	144	828	CODF210
12/09/77	12:20		0.00	1.33	145	829	CODF902
12/09/77	12:25		3.67	.77	146	830	CODF203
12/09/77	12:30		4.23	7.42	147	831	CODF406
12/09/77	12:40		2.58	.58	148	832	CODF203
12/09/77	12:50		9.42	4.75	149	833	CODF210
12/09/77	12:56		1.25	1.07	150	834	CODF203
12/09/77	13:00		2.93	7.58	151	835	CODF210
12/09/77	13:10		2.42	6.87	152	836	CODF210
12/09/77	13:28		11.13	.62	153	837	CODF401

MODULE 5 = BODY LOADING STATION 5 (CONTD) STATION 205 AT I.SAAP

STATION 205 AT I.SAAP

MODULE 5 = BODY LOADING STATION 5 (CONTD)

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/09/77	13:47	13:47	3.38	1.67	154	838	CODF902
12/09/77	13:55	13:55	6.33	1.8A	155	839	CODF40R
12/09/77	13:57	13:57	.12	1.00	156	840	CODF401
12/09/77	14:00	14:00	2.00	7.93	157	841	CODF210
12/09/77	14:09	14:09	1.07	.52	158	842	CODF802
12/09/77	14:12	14:12	2.48	.57	159	843	CODF902
12/09/77	14:14	14:14	1.43	2.05	160	844	CODF210
12/09/77	14:17	14:17	.95	.2A	161	845	CODF902
12/09/77	14:25	14:25	7.72	2.8A	162	846	CODF210
12/09/77	14:30	14:30	2.12	1.00	163	847	CODF304
12/09/77	14:32	14:32	1.00	.87	164	848	CODF902
12/09/77	14:34	14:34	1.13	1.2A	165	849	CODF902
12/09/77	14:45	14:45	9.72	1.00	166	850	CODF210
12/09/77	14:47	14:47	1.00	1.02	167	851	CODF203
12/09/77	14:50	14:50	1.98	2.1A	168	852	CODF210
12/09/77	14:53	14:53	.82	.57	169	853	CODF602
12/09/77	14:55	14:55	1.43	1.00	170	854	CODF203
12/09/77	14:59	14:59	3.00	.20	171	855	CODF215
END OF SHIFT AT 15:15							
12/12/77	07:27	08:33	2.85	1.00	172	856	CODF402
12/12/77	08:34	08:34	0.00	2.32	173	857	CODF40R
12/12/77	08:40	08:40	3.68	1.33	174	858	CODF604
12/12/77	08:45	08:45	3.67	10.37	175	859	CODF210
12/12/77	08:56	08:56	.63	1.13	176	860	CODF203
12/12/77	09:00	09:00	2.87	.63	177	861	CODF203
12/12/77	09:06	09:06	5.37	1.22	178	862	CODF802
12/12/77	10:15	10:15	27.02	.92	179	863	CODF210
12/12/77	10:29	10:29	9.93	1.13	180	864	CODF210
12/12/77	10:37	10:37	4.20	2.00	181	865	CODF40R
12/12/77	10:40	10:40	1.00	.52	182	866	CODF605
12/12/77	10:42	10:42	1.48	2.20	183	867	CODF502
12/12/77	10:49	10:49	3.55	12.6A	184	868	CODF215
12/12/77	12:14	12:14	29.25	.77	185	869	CODF601
12/12/77	12:16	12:16	1.23	2.52	186	870	CODF40R
12/12/77	12:23	12:23	4.48	1.40	187	871	CODF411
12/12/77	12:26	12:26	1.60	.63	188	872	CODF203
12/12/77	12:27	12:27	.37	3.00	189	873	CODF40R
12/12/77	12:30	12:30	0.00	15.00	190	874	CODF215

MODULE 5 = BODY LOADING STATION 5 (CONTD) STATION 205 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
12/12/77	12:46	12:46	1.00	1.00	191	875	CODF411	
12/12/77	12:48	12:48	1.00	3.2A	192	876	CODF400	
12/12/77			END OF SHIFT AT 14:55					
12/13/77	07:27							
12/13/77		08:02	5.72	4.22	193	877	CODF902	
12/13/77		08:09	2.70	1.30	194	878	CODF400	
12/13/77		08:13	2.70	1.93	195	879	CODF902	
12/13/77		08:15	.07	3.13	196	880	CODF203	
12/13/77		08:20	1.87	1.87	197	881	CODF40A	
12/13/77		08:25	3.17	1.15	198	882	CODF401	
12/13/77		08:33	6.85	.90	199	883	CODF401	
12/13/77		08:36	2.10	1.6A	200	884	CODF902	
12/13/77		08:38	.32	1.03	201	885	CODF405	
12/13/77		08:45	5.97	4.25	202	886	CODF405	
12/13/77		08:55	5.75	3.6A	203	887	CODF215	
12/13/77		09:01	2.07	1.00	204	88A	CODF502	
12/13/77		09:09	6.25	1.25	205	889	CODF401	
12/13/77		09:25	14.75	.6A	206	890	CODF503	
12/13/77		09:27	1.32	.25	207	891	CODF407	
12/13/77		09:48	5.75	1.22	208	892	CODF902	
12/13/77		10:08	18.78	.83	209	893	CODF401	
12/13/77		10:09	.17	.75	210	894	CODF401	
12/13/77		10:12	2.25	.75	211	895	CODF203	
12/13/77		10:13	.25	.52	212	896	CODF203	
12/13/77		10:16	2.48	1.00	213	897	CODF401	
12/13/77		10:19	1.52	.70	214	898	CODF401	
12/13/77		10:20	.30	.72	215	899	CODF601	
12/13/77		10:21	.28	1.10	216	900	CODF601	
12/13/77		10:23	.90	.83	217	901	CODF401	
12/13/77		10:24	.17	1.0A	218	902	CODF601	
12/13/77		10:30	4.92	3.05	219	903	CODF210	
12/13/77		10:45	11.95	.8A	220	904	CODF902	
12/13/77		10:47	1.12	.97	221	905	CODF902	
12/13/77		10:51	3.03	.82	222	906	CODF401	
12/13/77		11:00	8.1A	.57	223	907	CODF401	
12/13/77		11:04	2.70	.82	224	908	CODF902	
12/13/77		11:07	2.1A	1.13	225	909	CODF203	
12/13/77		11:14	5.87	2.35	226	910	CODF602	
12/13/77		11:17	.65	1.00	227	911	CODF602	

MODULE 5 = BODY LOADING STATION 5 (CONTD) STATION 205 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMFR	SYSTEM FAILURE NUMFR	FAILURE MODF
12/13/77		12:10	12:00	1.67	228	912	CODE902
12/13/77		12:16	4:33	.95	229	913	CODE602
12/13/77		12:20	3:05	1.80	230	914	CODE902
12/13/77		12:25	3:20	1.80	231	915	CODE408
12/13/77		12:30	3:20	5.22	232	916	CODE210
12/13/77		12:38	2:78	1.25	233	917	CODE203
12/13/77		12:42	2:75	1.33	234	918	CODE203
12/13/77		12:45	1:67	4.00	235	919	CODE210
12/13/77		12:51	2:00	1.28	236	920	CODE409
12/13/77		12:55	2:72	5.25	237	921	CODE210
12/13/77		13:01	.75	.88	238	922	CODE401
12/13/77		13:26	22:83	0.00	239	923	CODE605
12/13/77		13:50	9:00	.87	240	924	CODE604
12/13/77		14:00	9:13	.72	241	925	CODE203
12/13/77		14:14	13:28	.65	242	926	CODE203
12/13/77		14:15	.35	.55	243	927	CODE203
12/13/77		14:28	11:48	1.32	244	928	CODE401
12/13/77		14:30	.68	1.05	245	929	CODE203
12/13/77		14:34	2:95	2.40	246	930	CODE210
12/13/77		14:37	.60	1.35	247	931	CODE411
12/13/77		14:40	1:65	1.08	248	932	CODE203
12/13/77		14:59	17:92	3.63	249	933	CODE602
12/13/77		15:03	.37	.62	250	934	CODE606

END OF SHIFT AT 15:15

SYSTEM SUMMARY

MODULE	MTBF	MTTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
5E FUZE ASSEMBLY STATION	3.9	.9	383	.80483	1859.3	1496.4
7E FUZE ASSEMBLY STATION	3.7	1.2	323	.75059	1602.2	1202.6
5W FUZE ASSEMBLY STATION	1.9	.8	587	.71880	1576.6	1133.3
7W FUZE ASSEMBLY STATION	3.4	.9	424	.79623	1793.8	1428.3
RE FUZE ASSEMBLY STATION	4.4	1.3	279	.76673	1588.8	1218.2
AW FUZE ASSEMBLY STATION	4.0	.9	388	.82261	1904.7	1566.8
9E FUZE ASSEMBLY STATION	3.8	1.1	386	.77617	1887.7	1465.2
9W FUZE ASSEMBLY STATION	2.2	.8	642	.71863	1937.3	1392.2
10E FUZE ASSEMBLY STATION	6.6	.8	250	.88680	1855.0	1645.0
10W FUZE ASSEMBLY STATION	3.8	.7	393	.84440	1769.4	1494.1
OVERALL SYSTEM	4.4	.9	4055	.79000	17774.8	14042.1

MODULE 1 = FUZF ASSEMBLY STATION 5E STATION 301 AT LSAAP

MODULE 1 = FUZF ASSEMBLY STATION 5E

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/12/77	07:30	07:35	5.00	.35	1	1	CODE 1A
12/12/77		07:38	2.65	.6A	2	2	CODE 1A
12/12/77		07:40	1.32	.62	3	3	CODE 1A
12/12/77		07:45	4.38	2.12	4	4	CODE 1A
12/12/77		07:48	.88	2.10	5	5	CODE 02
12/12/77		07:51	.90	1.63	6	6	CODE 07
12/12/77		07:59	6.37	.67	7	7	CODE 1A
12/12/77		08:01	1.33	2.17	8	8	CODE 25
12/12/77		08:04	.83	.30	9	9	CODE 01
12/12/77		08:08	3.70	.43	10	10	CODE 01
12/12/77		08:12	3.57	.55	11	11	CODE 02
12/12/77		08:15	2.45	.47	12	12	CODE 02
12/12/77		08:22	6.53	.43	13	13	CODE 02
12/12/77		08:24	1.57	1.1A	14	14	CODE 10
12/12/77		08:27	1.82	1.20	15	15	CODE 04
12/12/77		08:30	1.80	.27	16	16	CODE 01
12/12/77		08:31	.73	.67	17	17	CODE 10
12/12/77		08:33	1.33	.85	18	18	CODE 01
12/12/77		08:36	2.15	.43	19	19	CODE 1A
12/12/77		08:38	1.57	1.0A	20	20	CODE 02
12/12/77		08:44	4.92	.50	21	21	CODE 11
12/12/77		08:45	.50	2.53	22	22	FIXT BELT OVERLOADFD
12/12/77		08:50	2.47	.47	23	23	CODE 24
12/12/77		08:52	1.53	.62	24	24	CODE 01
12/12/77		08:55	2.38	.42	25	25	CODE 1A
12/12/77		08:56	.58	.53	26	26	CODE 02
12/12/77		08:59	2.47	.42	27	27	CODE 14
12/12/77		09:00	.58	.37	28	28	CODE 10
12/12/77		09:01	.63	3.43	29	29	CODE 1A
12/12/77		09:05	.57	1.13	30	30	CODE 1A
12/12/77		09:20	13.87	.45	31	31	CODE 01
12/12/77		09:23	2.55	.35	32	32	CODE 14
12/12/77		09:25	1.65	.53	33	33	CODE 1A
12/12/77		10:12	6.47	.57	34	34	CODE 1A
12/12/77		10:15	2.43	.63	35	35	CODE 04
12/12/77		10:16	.37	.40	36	36	CODE 05
12/12/77		10:18	1.60	2.75	37	37	CODE 05
12/12/77		10:22	1.25	.80	38	38	CODE 02
12/12/77		10:25	2.20	.27	39	39	CODE 01

MODULE 1 = FUZE ASSEMBLY STATION SE (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/12/77	10:30		4.73	.77	40	40	CODE 1A
12/12/77	10:32		1.23	.6A	41	41	CODE 17
12/12/77	10:38		5.32	.70	42	42	CODE 11
12/12/77	10:41		2.30	.5A	43	43	CODE 02
12/12/77	10:45		3.42	1.5A	44	44	CODE 24
12/12/77	10:55		8.42	1.00	45	45	CODE 02
12/12/77	11:05		9.00	1.05	46	46	CODE 1A
12/12/77	11:09		2.95	.52	47	47	CODE 02
12/12/77	11:10		.48	.72	4A	4A	CODE 17
12/12/77	11:15		4.28	.5A	49	49	CODE 24
12/12/77	11:17		1.42	3.00	50	50	CODE 14
12/12/77	11:25		5.00	.45	51	51	CODE 01
12/12/77	11:30		4.55	.5A	52	52	CODE 02
12/12/77	11:31		.42	.47	53	53	CODE 01
12/12/77	11:40		8.53	.77	54	54	CODE 1A
12/12/77	11:43		2.23	.92	55	55	CODE 03
12/12/77	12:40		21.08	.2A	56	56	CODE 1A
12/12/77	12:44		3.72	.37	57	57	CODE 01
12/12/77	12:47		2.63	.47	5A	5A	CODE 1A
12/12/77	12:4A		.53	.35	59	59	CODE 01
12/12/77	12:50		1.65	.45	60	60	CODE 01
12/12/77	12:55		4.55	.55	61	61	CODE 02
12/12/77	13:04		8.45	.37	62	62	CODE 1A
12/12/77	13:10		5.63	.40	63	63	CODE 01
12/12/77	13:11		.60	.47	64	64	CODE 1A
12/12/77	13:13		1.53	1.02	65	65	CODE 1A
12/12/77	13:20		5.98	.77	66	66	CODE 11
12/12/77	14:05		29.23	.75	67	67	CODE 05
12/12/77	14:07		1.25	.63	6A	6A	CODE 02
12/12/77	14:15		7.37	.47	69	69	CODE 1A
12/12/77	14:1A		2.53	.32	70	70	CODE 11
12/12/77	14:20		1.68	1.13	71	71	CODE 1A
12/12/77	14:23		1.87	1.50	72	72	CODE 03
12/12/77	14:25		.50	.80	73	73	CODE 1A
12/12/77	14:30		4.20	2.20	74	74	CODE 02
12/12/77	14:33		.80	.63	75	75	CODE 1B
12/12/77	14:35		1.37	1.10	76	76	CODE 12
12/12/77	14:40		3.90	.65	77	77	CODE 1A
12/12/77	14:50		9.35	1.05	7A	7A	CODE 03
12/12/77	14:52		.95	1.40	79	79	CODE 11

MODULE 1 = FUZF ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

(CONTD)

MODULE 1 = FUZF ASSEMBLY STATION 5E

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/12/77	14:54	.60	1.13	80	80	80	CODE 25
12/12/77	15:05	9.87	.47	81	81	81	CODE 1A
12/12/77	END OF SHIFT AT 15:27						
12/13/77	07:30						
12/13/77	07:33	12.53	.47	82	82	82	CODE 1A
12/13/77	07:55	14.13	.82	83	83	83	CODE 03
12/13/77	08:00	4.18	.73	84	84	84	CODE 02
12/13/77	08:05	4.27	.50	85	85	85	CODE 1A
12/13/77	08:10	4.50	.65	86	86	86	CODE 01
12/13/77	08:20	9.35	.58	87	87	87	CODE 02
12/13/77	08:30	9.42	.32	88	88	88	CODE 02
12/13/77	08:31	.68	1.83	89	89	89	CODE 02
12/13/77	08:33	.17	.75	90	90	90	CODE 02
12/13/77	08:40	6.25	3.20	91	91	91	CODE 02
12/13/77	08:44	.80	5.10	92	92	92	CODE 12
12/13/77	08:53	3.90	2.10	93	93	93	CODE 02
12/13/77	09:00	4.90	1.25	94	94	94	CODE 1A
12/13/77	09:15	13.75	.33	95	95	95	CODE 02
12/13/77	09:16	.67	.47	96	96	96	CODE 1A
12/13/77	09:20	3.53	.67	97	97	97	CODE 02
12/13/77	09:25	4.33	1.92	98	98	98	CODE 02
12/13/77	10:10	26.08	.50	99	99	99	CODE 1A
12/13/77	10:12	1.50	.77	100	100	100	CODE 02
12/13/77	10:15	2.23	.68	101	101	101	CODE 02
12/13/77	10:25	9.32	.93	102	102	102	CODE 02
12/13/77	10:26	.07	.80	103	103	103	CODE 03
12/13/77	10:30	3.20	.55	104	104	104	CODE 1A
12/13/77	10:40	9.45	.50	105	105	105	CODE 11
12/13/77	10:41	.50	1.18	106	106	106	CODE 1A
12/13/77	10:44	1.82	1.28	107	107	107	CODE 1A
12/13/77	10:55	9.72	.40	108	108	108	CODE 11
12/13/77	10:56	.60	1.62	109	109	109	CODE 11
12/13/77	11:00	2.38	1.02	110	110	110	CODE 02
12/13/77	12:34	22.98	.22	111	111	111	CODE 1A
12/13/77	12:36	1.78	.73	112	112	112	CODE 02
12/13/77	12:50	13.27	1.12	113	113	113	CODE 1A
12/13/77	12:54	2.88	.38	114	114	114	CODE 02
12/13/77	12:58	3.62	.43	115	115	115	CODE 1A
12/13/77	13:00	1.57	.87	116	116	116	CODE 1A

MODULE 1 = FU7F ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77		13:01	.13	.67	117	117	CODF 02
12/13/77		13:0A	6.33	.30	11A	11A	CODF 1A
12/13/77		13:10	1.70	.53	119	119	CODF 11
12/13/77		13:13	2.47	1.13	120	120	CODF 24
12/13/77		13:16	1.87	.22	121	121	CODF 01
12/13/77		13:55	23.78	.75	122	122	CODF 1A
12/13/77		13:56	.25	2.15	123	123	CODF 02
12/13/77		14:00	1.85	2.02	124	124	CODF 02
12/13/77		14:05	2.98	3.05	125	125	CODF 12
12/13/77		14:15	6.95	.40	126	126	CODF 02
12/13/77		14:29	3.60	1.93	127	127	CODF 1A
12/13/77		14:31	.07	.72	128	128	CODF 02
12/13/77		14:34	2.28	.93	129	129	CODF 02
12/13/77		14:3A	3.07	.43	130	130	CODF 11
12/13/77		14:50	11.57	.55	131	131	CODF 05
12/13/77		14:51	.45	.47	132	132	CODF 01
12/13/77		15:00	8.53	.57	133	133	CODF 01
12/13/77		15:05	4.43	.92	134	134	CODF 02
12/13/77							
12/14/77	07:27						
12/14/77		07:28	10.08	3.6A	135	135	CODF 12
12/14/77		07:32	.32	.50	136	136	CODF 05
12/14/77		07:33	.50	1.20	137	137	CODF 02
12/14/77		07:40	5.80	.55	13A	13A	CODF 10
12/14/77		07:41	.45	1.35	139	139	CODF 14
12/14/77		07:43	.65	2.60	140	140	CODF 11
12/14/77		07:49	3.40	3.0A	141	141	CODF 02
12/14/77		07:55	2.92	.7A	142	142	CODF 02
12/14/77		0A:10	14.22	.70	143	143	CODF 1A
12/14/77		0A:14	3.30	.37	144	144	CODF 01
12/14/77		0A:16	1.63	.61	145	145	CODF 1A
12/14/77		0A:25	8.37	.50	146	146	CODF 02
12/14/77		0A:2A	2.50	1.13	147	147	CODF 25
12/14/77		0A:40	10.87	.62	148	148	CODF 02
12/14/77		0A:45	4.38	3.30	149	149	CODF 02
12/14/77		0A:50	1.70	2.25	150	150	CODF 25
12/14/77		0A:55	2.75	.47	151	151	CODF 1A
12/14/77		0A:00	4.53	.77	152	152	CODF 11
12/14/77		09:02	1.23	1.12	153	153	CODF 01

END OF SHIFT AT 15:27

MODULE 1 = FUZE ASSEMBLY STATION SE (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77	09:05	1.88	.37	154	154	CODF 1A	
12/14/77	09:14	8.63	.60	155	155	CODF 1A	
12/14/77	09:15	.40	.27	156	156	CODF 02	
12/14/77	09:17	1.73	.30	157	157	CODF 1A	
12/14/77	09:18	.70	.43	158	158	CODF 11	
12/14/77	09:20	1.57	2.08	159	159	CODF 02	
12/14/77	09:23	.92	.47	160	160	CODF 1A	
12/14/77	09:25	1.53	1.07	161	161	CODF 1A	
12/14/77	09:27	.93	.37	162	162	CODF 1A	
12/14/77	09:29	1.63	.48	163	163	CODF 02	
12/14/77	09:48	3.52	1.17	164	164	CODF 02	
12/14/77	09:50	.83	3.63	165	165	CODF 25	
12/14/77	09:59	5.37	2.10	166	166	CODF 12	
12/14/77	10:02	.90	.65	167	167	CODF 01	
12/14/77	10:06	3.35	.22	168	168	CODF 11	
12/14/77	10:10	3.78	.32	169	169	CODF 11	
12/14/77	10:13	2.68	.63	170	170	CODF 1A	
12/14/77	10:15	1.37	.45	171	171	CODF 1A	
12/14/77	10:20	4.55	.47	172	172	CODF 02	
12/14/77	10:29	8.53	.52	173	173	CODF 01	
12/14/77	10:34	4.48	.52	174	174	CODF 1A	
12/14/77	10:44	9.48	.67	175	175	CODF 18	
12/14/77	10:45	.33	.53	176	176	CODF 02	
12/14/77	10:47	1.47	.75	177	177	CODF 12	
12/14/77	10:50	2.25	2.28	178	178	CODF 02	
12/14/77	10:55	2.72	1.25	179	179	CODF 02	
12/14/77	10:58	1.75	.57	180	180	CODF 02	
12/14/77	11:00	1.43	.92	181	181	CODF 02	
12/14/77	11:05	4.08	1.07	182	182	CODF 12	
12/14/77	11:14	7.93	.43	183	183	CODF 14	
12/14/77	11:15	.57	.60	184	184	CODF 03	
12/14/77	11:22	6.40	.63	185	185	CODF 02	
12/14/77	11:35	12.37	1.20	186	186	CODF 02	
12/14/77	11:45	8.80	.43	187	187	CODF 01	
12/14/77	11:48	2.57	3.22	188	188	CODF 25	
12/14/77	12:45	18.78	.48	189	189	CODF 01	
12/14/77	12:50	4.52	.70	190	190	CODF 02	
12/14/77	13:04	13.30	.33	191	191	CODF 01	
12/14/77	13:10	5.67	.47	192	192	CODF 01	
12/14/77	13:15	4.53	1.80	193	193	CODF 25	

MODULE 1 = FUZF ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77	13:25	8:20	1.10	194	194	194	CODE 25
12/14/77	13:50	8:90	.40	195	195	195	COOF 02
12/14/77	14:00	9:60	.95	196	196	196	CODE 1A
12/14/77	14:13	12:05	.87	197	197	197	COOF 02
12/14/77	14:16	2:13	2:02	198	198	198	CODE 25
12/14/77	14:22	3:98	.77	199	199	199	COOF 02
12/14/77	14:26	3:23	1:17	200	200	200	COOF 07
12/14/77	14:35	7:87	.53	201	201	201	COOF 1A
12/14/77	14:40	4:47	.45	202	202	202	COOF 09
12/14/77	14:42	1:55	.35	203	203	203	COOF 1A
12/14/77	14:43	.65	.42	204	204	204	COOF 02
12/14/77	14:45	1:58	.45	205	205	205	CODE 1A
12/14/77	14:46	.55	.2A	206	206	206	CODE 1A
12/14/77	14:47	.72	.2A	207	207	207	CODE 1A
12/14/77	14:48	.72	.2A	208	208	208	CODE 1A
12/14/77	14:55	6:72	.42	209	209	209	CODE 1A
12/14/77	14:56	.58	.45	210	210	210	CODE 1A
12/14/77	15:00	3:55	.7A	211	211	211	CODE 05
12/14/77	15:03	2:22	.35	212	212	212	CODE 1A
12/14/77	15:09	5:65	.32	213	213	213	CODE 05

12/15/77	07:27						
12/15/77	07:28	6:68	1:20	214	214	214	COOF 09
12/15/77	07:30	.80	.82	215	215	215	COOF 10
12/15/77	07:35	4:18	.2A	216	216	216	COOF 01
12/15/77	07:41	3:65	1:43	217	217	217	COOF 1A
12/15/77	07:53	10:57	1:07	218	218	218	COOF 07
12/15/77	08:43	3:93	.75	219	219	219	COOF 02
12/15/77	08:45	1:25	10:00	220	220	220	CLEANING STATION
12/15/77	09:20	20:00	.32	221	221	221	COOF 01
12/15/77	09:23	2:68	.47	222	222	222	COOF 01
12/15/77	09:25	1:53	1:37	223	223	223	COOF 01
12/15/77	09:50	8:63	1:33	224	224	224	COOF 01
12/15/77	09:55	3:67	1:17	225	225	225	COOF 10
12/15/77	09:5A	1:83	.77	226	226	226	CHANGE OUT A STATION
12/15/77	10:01	2:23	.82	227	227	227	COOF 25
12/15/77	10:03	1:18	.52	228	228	228	COOF 02
12/15/77	10:15	11:48	.33	229	229	229	COOF 1A
12/15/77	10:20	4:67	.35	230	230	230	COOF 02

MODULE 1 = FUZF ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/15/77		10:23	2.65	.65	231	231	CODE 1A
12/15/77		10:26	2.35	.47	232	232	CODE 1A
12/15/77		10:28	1.53	.31	233	233	CODE 1A
12/15/77		10:30	1.67	.57	234	234	CODE 1A
12/15/77		10:32	1.43	.63	235	235	CODE 1A
12/15/77		10:35	2.37	.92	236	236	CODE 1A
12/15/77		10:39	3.08	.50	237	237	CODE 1A
12/15/77		10:40	.50	.52	238	238	CODE 01
12/15/77		10:43	2.48	.50	239	239	CODE 1A
12/15/77		10:45	1.50	.63	240	240	CODE 12
12/15/77		10:50	4.37	.47	241	241	CODE 02
12/15/77		10:53	2.53	.45	242	242	CODE 1A
12/15/77		10:55	1.55	.67	243	243	CODE 05
12/15/77		10:58	2.33	2.02	244	244	CODE 1A
12/15/77		11:01	.98	1.42	245	245	CODE 11
12/15/77		11:04	1.58	1.58	246	246	CODE 1A
12/15/77		11:15	9.42	.30	247	247	CODE 0A
12/15/77		11:20	4.70	.63	248	248	CODE 1A
12/15/77		11:25	4.37	.80	249	249	CODE 1A
12/15/77		11:27	1.20	.63	250	250	CODE 1A
12/15/77		11:29	1.37	.42	251	251	CODE 1A
12/15/77		11:30	.58	.72	252	252	CODE 02
12/15/77		11:31	.28	.33	253	253	CODE 18
12/15/77		11:35	3.67	2.28	254	254	CODE 1A
12/15/77		11:38	.72	.50	255	255	CODE 12
12/15/77		11:39	.50	3.75	256	256	CODE 03
12/15/77		11:45	2.25	.57	257	257	CODE 1A
12/15/77		11:46	.43	.53	258	258	CODE 18
12/15/77		11:47	.47	2.10	259	259	CODE 1A
12/15/77		12:46	1.90	.78	260	260	CODE 12
12/15/77		12:47	.22	.33	261	261	CODE 02
12/15/77		12:49	1.67	.62	262	262	CODE 07
12/15/77		12:50	.38	.67	263	263	CODE 02
12/15/77		12:51	.33	.55	264	264	CODE 02
12/15/77		12:52	.45	.47	265	265	CODE 1A
12/15/77		12:53	.53	.75	266	266	CODE 1A
12/15/77		12:54	.25	.43	267	267	CODE 02
12/15/77		12:56	1.57	.33	268	268	CODE 11
12/15/77		12:57	.67	.33	269	269	CODE 11
12/15/77		13:02	4.67	.63	270	270	CODE 02

MODUL 1 = FUZF ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

STATION 301 AT LSAAP

(CONTD)

MODUL 1 = FUZF ASSEMBLY STATION 5E

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOF
12/15/77	13:05	2:37	.40	271	271	271	CODF 18
12/15/77	13:08	2:60	2.92	272	272	272	CODF 01
12/15/77	13:12	1:08	1.10	273	273	273	CODF 11
12/15/77	13:14	.90	.4A	274	274	274	CODF 05
12/15/77	13:15	.52	2.05	275	275	275	CODF 03
12/15/77	13:20	2.95	.43	276	276	276	CODF 1A
12/15/77	13:46	10.57	4.00	277	277	277	OVERLOAD ON FIXT RFLT
12/15/77	13:51	1.00	1.55	278	278	278	CODF 12
12/15/77	13:54	1.45	1.43	279	279	279	CODF 12
12/15/77	14:00	4.57	.42	280	280	280	CODF 1A
12/15/77	14:01	.58	2.0A	281	281	281	CODF 25
12/15/77	14:05	1.92	.37	282	282	282	CODF 02
12/15/77	14:08	2.63	.37	283	283	283	CODF 1A
12/15/77	14:10	1.63	.28	284	284	284	CODF 01
12/15/77	14:12	1.72	.23	285	285	285	CODF 01
12/15/77	14:14	1.77	.43	286	286	286	CODF 1A
12/15/77	14:15	.57	.72	287	287	287	CODF 03
12/15/77	14:28	12.28	1.27	288	288	288	CODF 02
12/15/77	14:35	5.73	1.40	289	289	289	CODF 02
12/15/77	14:37	.60	.38	290	290	290	CODF 01
12/15/77	14:50	12.62	.47	291	291	291	CODF 01
12/15/77	14:55	4.53	.80	292	292	292	CODF 02
12/15/77	15:00	4.20	.47	293	293	293	CODF 0A
12/15/77	15:05	4.53	.25	294	294	294	CODF 01
12/15/77	15:08	2.75	2.0A	295	295	295	CODF 02
12/15/77	15:11	.92	.5A	296	296	296	CODF 02

END OF SHIFT AT 15:27							

12/16/77	07:35						
12/16/77	07:36	16.42	.48	297	297	297	CODF 01
12/16/77	07:37	.52	.42	298	298	298	CODF 02
12/16/77	07:40	2.58	.35	299	299	299	CODF 02
12/16/77	07:50	7.45	.33	300	300	300	CODF 11
12/16/77	07:51	.67	.43	301	301	301	CODF 11
12/16/77	07:52	.57	1.12	302	302	302	CODF 11
12/16/77	07:55	1.88	.72	303	303	303	CODF 02
12/16/77	07:5A	2.28	1.2A	304	304	304	CODF 02
12/16/77	08:05	5.72	.28	305	305	305	CODF 01
12/16/77	08:09	3.72	.73	306	306	306	CODF 02
12/16/77	08:12	2.27	.50	307	307	307	CODF 01

MODULE 1 = FUZE ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/16/77		08:15	2.50	.65	308	308	CODE 02
12/16/77		08:17	1.35	.91	309	309	CODE 15
12/16/77		08:20	2.07	.30	310	310	CODE 01
12/16/77		08:25	4.70	.6A	311	311	CODE 25
12/16/77		08:30	4.32	.55	312	312	CODE 02
12/16/77		08:34	3.45	.37	313	313	CODE 02
12/16/77		08:37	2.63	1.53	314	314	CODE 02
12/16/77		08:40	1.47	10.40	315	315	CODE 16
12/16/77		08:55	4.60	.33	316	316	CODE 01
12/16/77		08:57	1.67	.52	317	317	CODE 02
12/16/77		09:00	2.48	.45	318	318	CODE 02
12/16/77		09:05	4.55	.55	319	319	CODE 02
12/16/77		09:07	1.45	1.50	320	320	CODE 02
12/16/77		09:10	1.50	.82	321	321	CODE 01
12/16/77		09:15	4.18	.2R	322	322	CODE 01
12/16/77		09:23	7.72	.8A	323	323	CODE 18
12/16/77		09:27	3.12	.47	324	324	CODE 02
12/16/77		09:55	12.53	.57	325	325	CODE 09
12/16/77		10:02	6.43	.37	326	326	CODE 01
12/16/77		10:04	1.63	.75	327	327	CODE 12
12/16/77		10:14	9.25	2.20	328	328	CODE 09
12/16/77		10:20	3.80	.35	329	329	CODE 01
12/16/77		10:21	.65	.80	330	330	CODE 02
12/16/77		10:25	3.20	.52	331	331	CODE 12
12/16/77		10:28	2.48	2.62	332	332	CODE 02
12/16/77		10:31	.38	2.80	333	333	CODE 12
12/16/77		10:36	2.20	2.10	334	334	CODE 25
12/16/77		10:45	6.90	.53	335	335	CODE 01
12/16/77		10:55	9.47	.42	336	336	CODE 14
12/16/77		10:56	.58	1.57	337	337	CODE 02
12/16/77		11:05	7.43	2.32	338	338	CODE 25
12/16/77		11:15	7.68	.75	339	339	CODE 12
12/16/77		11:18	2.25	.7A	340	340	CODE 02
12/16/77		11:30	11.22	.67	341	341	CODE 02
12/16/77		11:35	4.33	1.07	342	342	CODE 09
12/16/77		11:45	8.93	1.10	343	343	CODE 15
12/16/77		11:47	.90	.75	344	344	CODE 03
12/16/77		11:50	2.25	1.41	345	345	CODE 25
12/16/77		12:32	5.57	.31	346	346	CODE 01
12/16/77		12:34	1.67	.42	347	347	CODE 02

MODULE 1 = FUZE ASSEMBLY STATION 5E (CONTD) STATION 301 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/16/77	12:40	5:58	1.13	348	348	348	CODF 02
12/16/77	12:45	3:87	1.20	349	349	349	CODF 02
12/16/77	12:52	5:80	.72	350	350	350	CODF 02
12/16/77	13:05	12:28	.73	351	351	351	CODF 02
12/16/77	13:08	2:27	.43	352	352	352	CODF 01
12/16/77	13:15	6:57	.42	353	353	353	CODF 01
12/16/77	13:17	1:58	.55	354	354	354	CODF 12
12/16/77	13:18	.45	.81	355	355	355	CODF 02
12/16/77	13:20	1.17	.67	356	356	356	CODF 02
12/16/77	13:25	4:33	3.50	357	357	357	CODF 12
12/16/77	13:55	11:50	.38	358	358	358	CODF 18
12/16/77	13:57	1:62	.43	359	359	359	CODF 14
12/16/77	13:59	1:57	.31	360	360	360	CODF 01
12/16/77	14:00	.67	.51	361	361	361	CODF 02
12/16/77	14:02	1:47	3.42	362	362	362	CODF 25
12/16/77	14:10	4:58	.28	363	363	363	CODF 02
12/16/77	14:11	.72	.53	364	364	364	CODF 02
12/16/77	14:15	3:47	.85	365	365	365	CODF 12
12/16/77	14:20	4:15	.48	366	366	366	CODF 12
12/16/77	14:23	2:52	.37	367	367	367	CODF 01
12/16/77	14:30	6:63	.22	368	368	368	CODF 01
12/16/77	14:32	1:78	.27	369	369	369	CODF 02
12/16/77	14:33	.73	.43	370	370	370	CODF 14
12/16/77	14:34	.57	.75	371	371	371	CODF 02
12/16/77	14:36	1:25	.55	372	372	372	CODF 12
12/16/77	14:37	.45	1.17	373	373	373	CODF 02
12/16/77	14:40	1:83	.45	374	374	374	CODF 01
12/16/77	14:45	4:55	1.22	375	375	375	CODF 02
12/16/77	14:47	.78	1.75	376	376	376	CODF 25
12/16/77	14:53	4:25	.63	377	377	377	CODF 02
12/16/77	14:55	1:37	.78	378	378	378	CODF 02
12/16/77	14:57	1:22	.47	379	379	379	CODF 02
12/16/77	15:00	2:53	.73	380	380	380	CODF 19
12/16/77	15:05	4:27	2.17	381	381	381	CODF 02
12/16/77	15:10	2:83	1.25	382	382	382	CODF 02
12/16/77	15:14	2:75	.97	383	383	383	CODF 02

END OF SHIFT AT 15:27

MODULE 2 = FUZE ASSEMBLY STATION 7E

STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL F FAILURE NUMBER	SYSTEM FAILURE NUMBR	FAILURE MODF
12/05/77	07:27	07:27	0.00	10.00	1	384	CODE 16
12/05/77	07:38	07:38	1.00	.40	2	385	CODE 05
12/05/77	07:40	07:40	1.60	.43	3	386	CODE 05
12/05/77	07:41	07:41	.57	.52	4	387	CODE 14
12/05/77	07:42	07:42	.48	18.00	5	388	CODE 16
12/05/77	08:12	08:12	12.00	.28	6	389	CODE 02
12/05/77	08:13	08:13	.72	.25	7	390	CODE 02
12/05/77	08:16	08:16	2.75	.95	8	391	CODE 01
12/05/77	08:20	08:20	3.05	.53	9	392	CODE 02
12/05/77	08:23	08:23	2.47	.75	10	393	CODE 15
12/05/77	08:28	08:28	4.25	.42	11	394	CODE 02
12/05/77	08:30	08:30	1.58	.72	12	395	CODE 02
12/05/77	08:31	08:31	.28	.28	13	396	CODE 02
12/05/77	08:34	08:34	2.72	.25	14	397	CODE 02
12/05/77	08:48	08:48	3.75	.32	15	398	CODE 05
12/05/77	08:50	08:50	1.68	.88	16	399	CODE 02
12/05/77	08:51	08:51	.12	2.02	17	400	CODE 05
12/05/77	08:55	08:55	1.98	1.92	18	401	CODE 29
12/05/77	09:00	09:00	3.08	1.00	19	402	CODE 02
12/05/77	09:14	09:14	13.00	.63	20	403	CODE 02
12/05/77	09:20	09:20	5.37	.92	21	404	CODE 18
12/05/77	09:50	09:50	29.08	.22	22	405	CODE 02
12/05/77	09:57	09:57	6.78	.37	23	406	CODE 02
12/05/77	09:59	09:59	1.63	3.12	24	407	CODE 25
12/05/77	10:05	10:05	2.88	.27	25	408	CODE 02
12/05/77	10:09	10:09	3.73	.20	26	409	CODE 02
12/05/77	10:15	10:15	5.80	.28	27	410	CODE 02
12/05/77	10:20	10:20	4.72	.52	28	411	CODE 02
12/05/77	10:33	10:33	12.48	3.32	29	412	CODE 18
12/05/77	10:37	10:37	.68	.65	30	413	CODE 11
12/05/77	10:50	10:50	12.35	.52	31	414	CODE 07
12/05/77	10:55	10:55	4.48	1.10	32	415	CODE 02
12/05/77	11:00	11:00	3.90	.32	33	416	CODE 02
12/05/77	11:05	11:05	4.68	.72	34	417	CODE 18
12/05/77	11:10	11:10	4.28	2.83	35	418	CODE 02
12/05/77	11:13	11:13	.17	.47	36	419	CODE 02
12/05/77	11:19	11:19	5.53	.50	37	420	CODE 02
12/05/77	11:23	11:23	3.50	1.20	38	421	CODE 12
12/05/77	11:25	11:25	.80	.32	39	422	CODE 02

MODUL 2 = FU7E ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77		11:32	6.68	.32	40	423	CONF 02
12/05/77		11:45	12.68	.47	41	424	CONF 05
12/05/77		11:50	4.53	.35	42	425	CONF 14
12/05/77		12:40	9.65	.41	43	426	CONF 02
12/05/77		12:43	2.57	2.82	44	427	CONF 11
12/05/77		12:47	1.18	.57	45	428	CONF 07
12/05/77		12:49	1.43	.62	46	429	CONF 02
12/05/77		12:50	4.63	.37	47	430	CONF 02
12/05/77		12:55	3.82	.1A	48	431	CONF 18
12/05/77		12:59	3.82	.2A	49	432	CONF 02
12/05/77		13:00	.72	.80	50	433	CONF 02
12/05/77		13:02	1.20	1.82	51	434	CONF 18
12/05/77		13:04	.18	2.25	52	435	CONF 04
12/05/77		13:07	.75	1.8A	53	436	CONF 02
12/05/77		13:10	1.12	.42	54	437	CONF 02
12/05/77		13:15	4.58	1.07	55	438	CONF 02
12/05/77		13:20	3.93	.87	56	439	CONF 14
12/05/77		13:25	4.13	.65	57	440	CONF 02
12/05/77		13:26	.35	.55	58	441	CONF 02
12/05/77		13:50	8.45	.2A	59	442	CONF 17
12/05/77		13:59	8.72	1.5A	60	443	CONF 17
12/05/77		14:02	1.42	1.12	61	444	CONF 11
12/05/77		14:10	6.88	.30	62	445	CONF 03
12/05/77		14:12	1.70	.47	63	446	CONF 02
12/05/77		14:20	7.53	.70	64	447	CONF 01
12/05/77		14:25	4.30	.4A	65	44A	CONF 02
12/05/77		14:26	.52	.75	66	449	CONF 07
12/05/77		14:35	8.25	.62	67	450	CONF 02
12/05/77		14:40	4.38	2.02	68	451	CONF 02
12/05/77		14:43	.98	.37	69	452	CONF 02
12/05/77		14:44	.63	6.52	70	453	CONF 16
12/05/77		14:52	1.48	.55	71	454	CONF 02
12/05/77		14:53	.45	.40	72	455	CONF 07
12/05/77		14:54	.60	1.32	73	456	CONF 01
12/05/77		15:00	4.68	.32	74	457	CONF 02
12/05/77		15:01	.68	.35	75	458	CONF 05
12/05/77		15:02	.65	5.40	76	459	CONF 05
12/05/77		15:10	2.60	2.11	77	460	CONF 02

END OF SHIFT AT 15:27

MODULE 2 = FU7E ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RFPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/06/77	07:35	07:38	5.87	.72	7A	461	CONF 01
12/06/77		07:40	.65	.65	79	462	CONF 05
12/06/77		07:42	1.35	.63	80	463	CONF 02
12/06/77		07:45	2.37	1.42	81	464	CONF 02
12/06/77		08:06	3.18	3.02	82	465	CONF 15
12/06/77		08:10	.98	.78	83	466	CONF 14
12/06/77		08:11	.22	.33	84	467	CONF 18
12/06/77		08:15	3.67	.53	85	468	CONF 03
12/06/77		08:17	1.47	.48	86	469	CONF 02
12/06/77		08:18	.52	.47	87	470	CONF 02
12/06/77		08:20	1.53	1.40	88	471	CONF 05
12/06/77		08:22	.60	.97	89	472	CONF 03
12/06/77		08:24	1.03	1.10	90	473	CONF 03
12/06/77		08:26	.90	.57	91	474	CONF 02
12/06/77		08:29	2.43	.82	92	475	CONF 02
12/06/77		08:32	2.18	.68	93	476	CONF 02
12/06/77		08:34	1.32	.95	94	477	CONF 05
12/06/77		08:37	2.05	1.53	95	478	CONF 02
12/06/77		08:44	5.47	.80	96	479	CONF 25
12/06/77		08:50	5.20	.48	97	480	CONF 02
12/06/77		08:52	1.52	.57	9A	481	CONF 02
12/06/77		08:55	2.43	.77	99	482	CONF 02
12/06/77		08:58	2.23	2.40	100	483	CONF 02
12/06/77		09:01	.60	3.02	101	484	CONF 02
12/06/77		09:05	.98	3.58	102	485	CONF 02
12/06/77		09:10	1.42	.73	103	486	CONF 02
12/06/77		09:11	.27	1.35	104	487	CONF 02
12/06/77		09:14	1.65	.47	105	488	CONF 02
12/06/77		09:15	.53	.43	106	489	CONF 02
12/06/77		09:18	2.57	.62	107	490	CONF 02
12/06/77		09:20	1.38	1.72	108	491	CONF 02
12/06/77		09:25	3.28	.40	109	492	CONF 02
12/06/77		09:51	5.60	2.87	110	493	CONF 02
12/06/77		09:55	1.13	2.55	111	494	CONF 02
12/06/77		10:00	2.45	1.67	112	495	CONF 02
12/06/77		10:02	.33	.45	113	496	CONF 02
12/06/77		10:04	1.55	.77	114	497	CONF 01
12/06/77		10:06	1.23	.58	115	498	CONF 02
12/06/77		10:07	.42	1.28	116	499	CONF 05

MODULE 2 = FUZE ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBFR	FAILURE MODF
12/06/77		10:10	1.72	2.75	117	500	CODF 24
12/06/77		10:15	2.25	.71	118	501	CODF 02
12/06/77		10:18	2.27	.42	119	502	CODF 1A
12/06/77		10:20	1.58	.82	120	503	CODF 02
12/06/77		10:30	9.18	.42	121	504	CODF 05
12/06/77		10:33	2.58	.43	122	505	CODF 01
12/06/77		10:34	.57	.31	123	506	CODF 02
12/06/77		10:35	.67	.37	124	507	CODF 01
12/06/77		10:36	.63	.81	125	508	CODF 02
12/06/77		10:39	2.17	.31	126	509	CODF 02
12/06/77		10:40	.67	1.10	127	510	CODF 02
12/06/77		10:42	.90	1.75	128	511	CODF 02
12/06/77		10:44	.25	.90	129	512	CODF 07
12/06/77		10:46	1.10	.83	130	513	CODF 02
12/06/77		10:48	1.17	.53	131	514	CODF 11
12/06/77		11:00	11.47	.47	132	515	CODF 02
12/06/77		11:02	1.53	2.12	133	516	CODF 02
12/06/77		11:08	3.88	.40	134	517	CODF 03
12/06/77		11:09	.60	.47	135	518	CODF 05
12/06/77		11:15	5.53	.42	136	519	CODF 02
12/06/77		11:20	4.58	.80	137	520	CODF 02
12/06/77		11:23	2.20	.82	138	521	CODF 12
12/06/77		11:25	1.18	.75	139	522	CODF 12
12/06/77		11:27	1.25	2.80	140	523	CODF 11
12/06/77		11:34	4.20	.55	141	524	CODF 02
12/06/77		11:36	1.45	.53	142	525	CODF 02
12/06/77		11:39	2.47	.67	143	526	CODF 1A
12/06/77		11:44	4.33	.42	144	527	CODF 01
12/06/77		11:49	4.58	.35	145	528	CODF 02
12/06/77		11:51	1.65	.38	146	529	CODF 02
12/06/77		12:40	8.62	.53	147	530	CODF 02
12/06/77		12:42	1.47	2.62	148	531	REMOVE WASHER FROM SHOT PIN
12/06/77		12:45	.38	1.68	149	532	CODF 1A
12/06/77		12:48	1.32	.83	150	533	CODF 02
12/06/77		12:53	4.17	.62	151	534	CODF 14
12/06/77		12:55	1.38	.35	152	535	CODF 14
12/06/77		13:05	9.65	.30	153	536	CODF 03
12/06/77		13:12	6.70	.27	154	537	CODF 01
12/06/77		13:13	.73	.65	155	538	CODF 07
12/06/77		13:18	4.35	.40	156	539	CODF 01

MODULE 2 = FIJZE ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		13:25	6.60	.25	157	540	CODE 05
12/06/77		13:26	.75	.43	158	541	CODE 02
12/06/77		13:55	8.57	.18	159	542	CODE 1A
12/06/77		13:59	3.82	.67	160	543	CODE 07
12/06/77		14:01	1.33	.38	161	544	CODE 02
12/06/77		14:02	.62	.52	162	545	CODE 02
12/06/77		14:03	.48	1.27	163	546	CODE 02
12/06/77		14:05	.73	.97	164	547	CODE 02
12/06/77		14:06	.03	2.12	165	548	CODE 02
12/06/77		14:09	.88	.63	166	549	CODE 14
12/06/77		14:10	.37	.45	167	550	CODE 02
12/06/77		14:12	1.55	.67	168	551	CODE 02
12/06/77		14:20	7.33	.47	169	552	CODE 02
12/06/77		14:22	1.53	.52	170	553	CODE 02
12/06/77		14:25	2.48	.63	171	554	CODE 1A
12/06/77		14:26	.37	.67	172	555	CODE 01
12/06/77		14:28	1.33	.35	173	556	CODE 1A
12/06/77		14:29	.65	.68	174	557	CODE 1A
12/06/77		14:30	.32	.62	175	558	CODE 02
12/06/77		14:35	4.38	.43	176	559	CODE 02
12/06/77		14:37	1.57	.63	177	560	CODE 02
12/06/77		14:38	.37	.53	178	561	CODE 05
12/06/77		14:44	5.47	.82	179	562	CODE 02
12/06/77		14:46	1.18	.45	180	563	CODE 01
12/06/77		14:50	3.55	3.10	181	564	CODE 02
12/06/77		14:54	.90	5.10	182	565	CODE 02
12/06/77		15:00	.90	.12	183	566	CODE 02
END OF SHIFT AT 15:27							
12/07/77	07:30						
12/07/77		07:41	1.88	.45	184	567	CODE 1A
12/07/77		07:42	.55	.10	185	568	CODE 29
12/07/77		08:24	14.90	.60	186	569	CODE 14
12/07/77		08:30	5.40	.42	187	570	CODE 02
12/07/77		08:31	.58	.72	188	571	CODE 14
12/07/77		08:32	.28	4.08	189	572	CODE 11
12/07/77		08:40	3.92	2.12	190	573	CODE 19
12/07/77		08:49	2.20	.82	191	574	CODE 02
12/07/77		08:53	3.18	.75	192	575	CODE 01
12/07/77		08:55	1.25	1.08	193	576	CODE 12

MODULE 2 = FU7E ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/07/77		09:00	3.92	.62	194	577	COOF 12
12/07/77		09:03	2.38	.8A	195	57A	COOF 12
12/07/77		09:13	5.43	1.13	196	579	COOF 2A
12/07/77		09:15	.87	.45	197	580	COOF 01
12/07/77		09:24	8.55	.37	198	5A1	COOF 14
12/07/77		10:05	20.63	.47	199	582	COOF 17
12/07/77		10:06	.53	.61	200	5A3	COOF 1A
12/07/77		10:15	8.37	.82	201	584	COOF 11
12/07/77		10:16	.18	1.02	202	5A5	COOF 17
12/07/77		10:20	2.98	.72	203	5A6	COOF 02
12/07/77		10:25	4.28	1.43	204	5A7	COOF 12
12/07/77		10:27	.57	1.67	205	5A8	COOF 02
12/07/77		10:39	5.83	.77	206	5A9	COOF 02
12/07/77		10:41	1.23	.1A	207	590	COOF 01
12/07/77		10:47	5.82	.72	208	591	COOF 02
12/07/77		10:57	9.28	.92	209	592	COOF 17
12/07/77		11:00	2.08	.61	210	593	COOF 01
12/07/77		11:20	7.62	.63	211	594	COOF 07
12/07/77		11:24	3.37	.55	212	595	COOF 05
12/07/77		11:26	1.45	.77	213	596	COOF 02
12/07/77		11:28	1.23	.82	214	597	COOF 14
12/07/77		11:35	6.18	2.50	215	59A	COOF 17
12/07/77		11:45	7.50	.77	216	599	COOF 1A
12/07/77		12:37	11.23	.63	217	600	COOF 11
12/07/77		12:44	6.37	.25	218	601	COOF 17
12/07/77		12:49	4.75	.45	219	602	COOF 01
12/07/77		12:54	4.55	.55	220	603	COOF 03
12/07/77		13:00	5.45	.67	221	604	COOF 02
12/07/77		13:03	2.33	.41	222	605	COOF 05
12/07/77		13:10	6.57	.50	223	606	COOF 02
12/07/77		13:14	3.50	.40	224	607	COOF 17
12/07/77		13:15	.60	1.6A	225	60A	COOF 02
12/07/77		13:45	4.32	15.00	226	609	COOF 16
12/07/77		14:01	1.00	.43	227	610	COOF 02
12/07/77		14:05	3.57	7.00	228	611	COOF 16
12/07/77		14:13	1.00	2.10	229	612	COOF 11
12/07/77		14:16	.90	6.07	230	613	COOF 11
12/07/77		14:23	.93	.2A	231	614	COOF 11
12/07/77		14:48	8.72	.6A	232	615	COOF 07
12/07/77		14:50	1.32	1.12	233	616	COOF 14

MODULE 2 = FUZF ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77		14:58	6.88	.82	234	617	CODF 07
12/07/77		15:00	1.18	1.12	235	618	CODF 14
12/07/77		15:02	.88	.42	236	619	CODF 02
12/07/77		15:10	7.58	.77	237	620	CODF 02
END OF SHIFT AT 15:27							
12/08/77	07:35						
12/08/77		07:40	9.23	.67	238	621	CODF 07
12/08/77		07:55	14.33	2.31	239	622	CODF 02
12/08/77		08:05	7.67	.35	240	623	CODF 01
12/08/77		08:13	7.65	.72	241	624	CODF 17
12/08/77		08:25	11.28	1.12	242	625	CODF 17
12/08/77		08:35	8.88	.72	243	626	CODF 14
12/08/77		08:40	4.28	.65	244	627	CODF 07
12/08/77		08:45	4.35	.13	245	628	CODF 02
12/08/77		08:47	1.87	.17	246	629	CODF 01
12/08/77		08:50	2.83	.43	247	630	CODF 03
12/08/77		09:05	14.57	.42	248	631	CODF 07
12/08/77		09:10	4.58	.72	249	632	CODF 02
12/08/77		09:15	4.28	.45	250	633	CODF 01
12/08/77		09:25	9.55	.55	251	634	CODF 07
12/08/77		09:27	1.45	.42	252	635	CODF 03
12/08/77		09:47	4.58	.65	253	636	CODF 02
12/08/77		09:55	7.35	.47	254	637	CODF 01
12/08/77		10:05	9.53	.61	255	638	CODF 07
12/08/77		10:10	4.37	.43	256	639	CODF 02
12/08/77		10:15	4.57	5.13	257	640	CODF 02
12/08/77		10:25	4.87	.45	258	641	CODF 07
12/08/77		10:40	14.55	1.13	259	642	CODF 01
12/08/77		10:42	.87	.50	260	643	CODF 05
12/08/77		10:50	7.50	.51	261	644	CODF 02
12/08/77		10:58	7.47	.68	262	645	CODF 02
12/08/77		11:10	11.32	.41	263	646	CODF 14
12/08/77		11:15	4.57	.88	264	647	CODF 02
12/08/77		11:25	9.12	.47	265	648	CODF 17
12/08/77		11:27	1.53	.63	266	649	CODF 02
12/08/77		11:30	2.37	.67	267	650	CODF 03
12/08/77		11:32	1.33	.35	268	651	CODF 14
12/08/77		11:35	2.65	.77	269	652	CODF 07
12/08/77		11:45	9.23	1.40	270	653	CODF 25

MODULE 2 = FUZE ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/0A/77		12:36	9:60	.85	271	654	CODF 02
12/0A/77		12:40	3:15	.37	272	655	CODF 02
12/0A/77		12:45	4:63	.47	273	656	CODF 02
12/0A/77		12:48	2:53	1:43	274	657	CODF 17
12/0A/77		12:53	3:57	.65	275	658	CODF 02
12/0A/77		12:57	3:35	.42	276	659	CODF 03
12/0A/77		13:05	7:58	1:33	277	660	CODF 02
12/0A/77		13:10	3:67	.37	278	661	CODF 01
12/0A/77		13:15	4:63	.63	279	662	CODF 07
12/0A/77		13:55	19:37	.53	280	663	CODF 14
12/0A/77		14:00	4:47	.42	281	664	CODF 01
12/0A/77		14:10	9:58	.55	282	665	CODF 14
12/0A/77		14:20	9:45	.43	283	666	CODF 14
12/0A/77		14:30	9:57	1:75	284	667	CODF 01
12/0A/77		14:50	13:42	10:10	285	668	CODF 16
12/0A/77		15:01	.90	5:02	286	669	REPLAC
12/0A/77		15:07	.98	1:07	287	670	CODF 07
END OF SHIFT AT 15:27							
12/09/77	07:27						
12/09/77		07:40	19:93	.43	288	671	CODF 01
12/09/77		07:45	4:57	.83	289	672	CODF 02
12/09/77		07:50	4:17	.75	290	673	CODF 02
12/09/77		07:54	3:25	1:20	291	674	CODF 02
12/09/77		07:56	.80	.37	292	675	CODF 02
12/09/77		10:23	18:63	.88	293	676	CODF 1A
12/09/77		10:25	1:12	2:25	294	677	CODF 16
12/09/77		10:30	2:75	.92	295	678	CODF 05
12/09/77		10:32	1:08	1:18	296	679	CODF 05
12/09/77		10:35	1:82	2:10	297	680	CODF 17
12/09/77		10:38	.90	.77	298	681	CODF 11
12/09/77		10:39	.23	1:13	299	682	CODF 05
12/09/77		10:41	.87	4:42	300	683	CODF 11
12/09/77		10:46	.58	3:12	301	684	CODF 05
12/09/77		10:50	.88	2:20	302	685	CODF 02
12/09/77		10:53	.80	3:42	303	686	CODF 05
12/09/77		11:00	3:58	3:02	304	687	CODF 05
12/09/77		11:04	.98	4:10	305	688	CODF 05
12/09/77		11:09	.90	2:07	306	689	CODF 1A
12/09/77		11:12	.93	1:13	307	690	CODF 1A

MODULE 2 = FUZE ASSEMBLY STATION 7E (CONTD) STATION 303 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOUF
12/09/77	12:37	4.87	.62	308	691	691	CODE 05
12/09/77	12:40	2.38	.47	309	692	692	CODE 05
12/09/77	12:43	2.53	1.05	310	693	693	CODE 05
12/09/77	12:45	.95	4.10	311	694	694	CODE 05
12/09/77	12:51	1.90	.77	312	695	695	CODE 05
12/09/77	14:15	3.23	.43	313	696	696	CODE 14
12/09/77	14:17	1.57	3.53	314	697	697	CODE 18
12/09/77	14:23	2.47	1.22	315	698	698	CODE 02
12/09/77	14:25	.78	4.05	316	699	699	CODE 18
12/09/77	14:30	.95	3.77	317	700	700	CODE 05
12/09/77	14:35	1.23	2.63	318	701	701	CODE 03
12/09/77	14:40	2.37	.75	319	702	702	CODE 02
12/09/77	14:43	2.25	1.60	320	703	703	CODE 18
12/09/77	14:45	.40	.93	321	704	704	CODE 05
12/09/77	14:48	2.07	1.35	322	705	705	CODE 07
12/09/77	14:50	.65	10.00	323	706	706	CODE 11

END OF SHIFT AT 15:27

STATION 302 AT LSAAP

MODULE 3 = FUTE ASSEMBLY STATION 5W

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77	07:29	07:37	8.00	.50	1	707	CODF 02
12/12/77		07:39	1.50	1.02	2	708	CODF 02
12/12/77		07:41	.98	.43	3	709	CODF 02
12/12/77		07:45	3.57	.57	4	710	CODF 18
12/12/77		07:51	5.43	.88	5	711	CODF 23
12/12/77		07:54	2.12	.33	6	712	CODF 01
12/12/77		07:56	1.67	.75	7	713	CODF 23
12/12/77		07:57	.25	1.03	8	714	CODF 29
12/12/77		07:59	.97	.85	9	715	CODF 12
12/12/77		08:05	5.15	.22	10	716	CODF 06
12/12/77		08:06	.78	.18	11	717	CODF 14
12/12/77		08:10	3.82	.30	12	718	CODF 01
12/12/77		08:11	.70	.62	13	719	CODF 01
12/12/77		08:12	.38	.28	14	720	CODF 1A
12/12/77		08:14	1.72	.33	15	721	CODF 18
12/12/77		08:15	.67	.33	16	722	CODF 18
12/12/77		08:18	2.67	.17	17	723	CODF 06
12/12/77		08:20	1.83	.28	18	724	CODF 01
12/12/77		08:23	2.72	1.35	19	725	CODF 18
12/12/77		08:32	7.65	.47	20	726	CODF 18
12/12/77		08:35	2.53	.52	21	727	CODF 18
12/12/77		08:36	.48	.65	22	728	CODF 18
12/12/77		08:38	1.35	.43	23	729	CODF 01
12/12/77		08:40	1.57	.18	24	730	CODF 07
12/12/77		08:41	.82	.43	25	731	CODF 18
12/12/77		08:42	.57	.38	26	732	CODF 12
12/12/77		08:45	2.62	.17	27	733	CODF 06
12/12/77		08:46	.83	.60	28	734	CODF 01
12/12/77		08:49	2.40	.38	29	735	CODF 1A
12/12/77		08:50	.62	.25	30	736	CODF 02
12/12/77		08:52	1.75	.37	31	737	CODF 02
12/12/77		08:53	.63	.20	32	738	CODF 02
12/12/77		08:54	.80	.12	33	739	CODF 06
12/12/77		08:56	1.88	.13	34	740	CODF 18
12/12/77		08:57	.87	.43	35	741	CODF 02
12/12/77		08:59	1.57	.58	36	742	CODF 14
12/12/77		09:00	.42	.33	37	743	CODF 01
12/12/77		09:01	.67	.40	38	744	CODF 12
12/12/77		09:02	.60	.12	39	745	CODF 06

MODULF 3 = FUZE ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/12/77		09:03	.88	.60	40	746	CODE 1H
12/12/77		09:05	1.40	.37	41	747	CODE 14
12/12/77		09:08	2.63	.31	42	748	CODE 18
12/12/77		09:09	.67	.31	43	749	CODE 18
12/12/77		09:10	.67	.25	44	750	CODE 02
12/12/77		09:11	.75	.40	45	751	CODE 01
12/12/77		09:13	1.60	.68	46	752	CODE 23
12/12/77		09:15	1.32	.12	47	753	CODE 06
12/12/77		09:17	1.88	.43	48	754	CODE 18
12/12/77		09:18	.57	.51	49	755	CODE 18
12/12/77		09:19	.47	3.07	50	756	CODE 11
12/12/77		09:25	2.93	5.00	51	757	CODE 12
12/12/77		10:11	1.00	.72	52	758	CODE 23
12/12/77		10:12	.28	1.58	53	759	CODE 29
12/12/77		10:16	2.42	1.00	54	760	CODE 02
12/12/77		10:17	0.00	.30	55	761	CODE 18
12/12/77		10:18	.70	.30	56	762	CODE 18
12/12/77		10:19	.70	.22	57	763	CODE 14
12/12/77		10:20	.78	.31	58	764	CODE 14
12/12/77		10:21	.67	.63	59	765	CODE 02
12/12/77		10:22	.37	.88	60	766	CODE 12
12/12/77		10:23	.12	.45	61	767	CODE 18
12/12/77		10:24	.55	.31	62	768	CODE 17
12/12/77		10:25	.67	.35	63	769	CODE 18
12/12/77		10:26	.65	.37	64	770	CODE 02
12/12/77		10:27	.63	.35	65	771	CODE 11
12/12/77		10:28	.65	.37	66	772	CODE 01
12/12/77		10:29	.63	1.05	67	773	CODE 12
12/12/77		10:31	.95	.31	68	774	CODE 01
12/12/77		10:32	.67	.62	69	775	CODE 02
12/12/77		10:33	.38	.43	70	776	CODE 25
12/12/77		10:34	.57	.35	71	777	CODE 18
12/12/77		10:35	.65	.82	72	778	CODE 18
12/12/77		10:36	.18	.31	73	779	CODE 01
12/12/77		10:37	.67	.43	74	780	CODE 18
12/12/77		10:41	3.57	.28	75	781	CODE 01
12/12/77		10:42	.72	.28	76	782	CODE 01
12/12/77		10:44	1.72	.28	77	783	CODE 14
12/12/77		10:46	1.72	.28	78	784	CODE 14
12/12/77		10:47	.72	.12	79	785	CODE 14

MODULE 3 = FU7E ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMRFR	FAILURE MODE
12/12/77		10:48	.88	.32	80	786	CODF 01
12/12/77		10:53	4.68	.30	81	787	CODF 01
12/12/77		10:54	.70	.55	82	788	CODF 1A
12/12/77		10:55	.45	.17	83	789	CODF 06
12/12/77		10:56	.83	.80	84	790	CODF 12
12/12/77		10:57	.20	.82	85	791	CODF 12
12/12/77		10:58	.18	.45	86	792	CODF 01
12/12/77		11:00	1.55	.17	87	793	CODF 06
12/12/77		11:03	2.83	.18	88	794	CODF 06
12/12/77		11:04	.82	.32	89	795	CODF 01
12/12/77		11:05	.68	.22	90	796	CODF 02
12/12/77		11:09	3.78	.15	91	797	CODF 06
12/12/77		11:11	1.85	.40	92	798	CODF 02
12/12/77		11:12	.60	.42	93	799	CODF 02
12/12/77		11:14	1.58	.13	94	800	CODF 06
12/12/77		11:15	.87	.31	95	801	CODF 01
12/12/77		11:16	.67	.43	96	802	CODF 01
12/12/77		11:20	3.57	1.12	97	803	CODF 23
12/12/77		11:22	.88	1.27	98	804	CODF 29
12/12/77		11:25	1.73	.28	99	805	CODF 01
12/12/77		11:26	.72	.55	100	806	CODF 12
12/12/77		11:28	1.45	.50	101	807	CODF 02
12/12/77		11:29	.50	.72	102	808	CODF 23
12/12/77		11:30	.28	3.07	103	809	CODF 29
12/12/77		11:34	.93	.20	104	810	CODF 06
12/12/77		11:35	.80	1.20	105	811	CODF 02
12/12/77		11:37	.80	.27	106	812	CODF 01
12/12/77		11:38	.73	.42	107	813	CODF 01
12/12/77		11:39	.58	.42	108	814	CODF 01
12/12/77		11:40	.58	.20	109	815	CODF 06
12/12/77		11:41	.80	.17	110	816	CODF 06
12/12/77		11:42	.83	.18	111	817	CODF 06
12/12/77		11:46	3.82	.13	112	818	CODF 06
12/12/77		11:47	.87	.30	113	819	CODF 01
12/12/77		11:48	.70	.45	114	820	CODF 1A
12/12/77		11:49	.55	.30	115	821	CODF 1A
12/12/77		12:31	3.70	.32	116	822	CODF 06
12/12/77		12:32	.68	1.22	117	823	CODF 01
12/12/77		12:34	.78	.32	118	824	CODF 01
12/12/77		12:35	.68	.38	119	825	CODF 01

MODULE 3 = FUZZ ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77		12:38	2.62	.67	120	826	COOF 12
12/12/77		12:39	.33	.25	121	827	COOF 02
12/12/77		12:40	.75	.40	122	828	COOF 1A
12/12/77		12:42	1.60	1.22	123	829	COOF 01
12/12/77		12:44	.78	.47	124	830	COOF 1A
12/12/77		12:45	.53	.67	125	831	COOF 1A
12/12/77		12:49	3.33	.77	126	832	COOF 1A
12/12/77		13:19	1.27	1.45	127	833	COOF 12
12/12/77		13:25	4.55	.75	128	834	COOF 12
12/12/77		13:26	.25	.32	129	835	COOF 01
12/12/77		13:45	3.68	.33	130	836	COOF 01
12/12/77		13:53	3.07	.58	131	837	COOF 02
12/12/77		13:55	1.42	.32	132	838	COOF 14
12/12/77		14:44	3.22	.37	133	839	CODE 02
12/12/77		14:46	1.63	.33	134	840	COOF 24
12/12/77		14:50	3.67	.13	135	841	COOF 06
12/12/77		14:51	.87	.28	136	842	COOF 02
12/12/77		14:52	.72	.38	137	843	COOF 02
12/12/77		14:54	1.62	.17	138	844	COOF 06
12/12/77		14:55	.83	.47	139	845	COOF 12
12/12/77		15:00	4.53	.68	140	846	COOF 23
12/12/77		15:02	1.32	.37	141	847	COOF 01
12/12/77		15:04	1.63	.17	142	848	COOF 06
12/12/77		15:06	1.83	.75	143	849	COOF 02
12/12/77		15:08	1.25	.47	144	850	COOF 14
END OF SHIFT AT 15:12							
12/13/77	07:29						
12/13/77	07:30	07:30	4.53	.48	145	851	COOF 02
12/13/77	07:32	07:32	1.52	3.18	146	852	COOF 02
12/13/77	07:36	07:36	.82	.87	147	853	COOF 02
12/13/77	07:39	07:39	2.13	1.20	148	854	COOF 06
12/13/77	07:41	07:41	.80	1.82	149	855	COOF 12
12/13/77	07:47	07:47	4.18	1.83	150	856	COOF 01
12/13/77	07:49	07:49	.17	1.73	151	857	COOF 09
12/13/77	07:51	07:51	.27	.53	152	858	COOF 02
12/13/77	07:54	07:54	2.47	.33	153	859	COOF 02
12/13/77	07:55	07:55	.67	4.28	154	860	COOF 12
12/13/77	08:00	08:00	.72	.57	155	861	COOF 02
12/13/77	08:01	08:01	.43	.88	156	862	COOF 02

MODULE 3 = FUSE ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77		08:02	.12	.52	157	863	CONF 09
12/13/77		08:03	.48	.25	158	864	CONF 02
12/13/77		08:05	1.75	1.27	159	865	PUT RIBBON ON TAPF FIXT
12/13/77		08:10	3.73	.33	160	866	CONF 02
12/13/77		08:11	.67	.37	161	867	CONF 12
12/13/77		08:12	.63	.25	162	868	CONF 12
12/13/77		08:13	.75	.48	163	869	CONF 12
12/13/77		08:36	1.32	1.72	164	870	CONF 02
12/13/77		08:38	.28	.62	165	871	CONF 02
12/13/77		08:48	.62	.27	166	872	CONF 02
12/13/77		08:49	.73	.48	167	873	CONF 02
12/13/77		08:50	.52	.87	168	874	CONF 02
12/13/77		08:51	.13	.23	169	875	CONF 02
12/13/77		08:52	.77	1.50	170	876	CONF 02
12/13/77		08:54	.50	.87	171	877	CONF 01
12/13/77		08:55	.13	1.00	172	878	CONF 02
12/13/77		08:56	0.00	1.35	173	879	CONF 12
12/13/77		08:58	.65	.68	174	880	CONF 02
12/13/77		08:59	.32	.62	175	881	CONF 12
12/13/77		09:00	.38	.95	176	882	CONF 12
12/13/77		09:01	.05	.75	177	883	CONF 02
12/13/77		09:02	.25	.32	178	884	CONF 02
12/13/77		09:03	.68	.88	179	885	CONF 12
12/13/77		09:04	.12	.48	180	886	CONF 02
12/13/77		09:05	.52	1.68	181	887	CONF 12
12/13/77		09:20	.92	.75	182	888	CONF 02
12/13/77		09:21	.25	.50	183	889	CONF 02
12/13/77		09:50	.50	1.18	184	890	CONF 02
12/13/77		10:01	.93	.39	185	891	CONF 02
12/13/77		10:02	.62	2.40	186	892	CONF 02
12/13/77		10:14	1.50	1.40	187	893	CONF 02
12/13/77		10:16	.60	.80	188	894	CONF 12
12/13/77		10:17	.20	.62	189	895	CONF 02
12/13/77		10:19	1.38	4.97	190	896	CONF 02
12/13/77		10:25	1.03	.83	191	897	CONF 02
12/13/77		10:26	.17	1.08	192	898	CONF 02
12/13/77		10:28	.92	.73	193	899	CONF 02
12/13/77		10:32	3.27	.37	194	900	CONF 01
12/13/77		10:34	1.63	.82	195	901	CONF 12
12/13/77		10:40	5.18	.67	196	902	CONF 02

MODULE 3 = FUZF ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		10:41	.37	.67	197	903	CODF 02
12/13/77		10:57	2.22	.35	19A	904	CODF 02
12/13/77		10:58	.65	.33	199	905	CODF 01
12/13/77		10:59	.67	.35	200	906	CODF 1A
12/13/77		11:00	.65	.63	201	907	CODF 02
12/13/77		11:01	.37	.50	202	90A	CODF 02
12/13/77		11:02	.50	.42	203	909	CODF 02
12/13/77		11:03	.58	1.10	204	910	CODF 12
12/13/77		11:05	.90	.23	205	911	CODF 02
12/13/77		11:06	.77	1.17	206	912	CODF 02
12/13/77		11:09	1.83	.62	207	913	CODF 1A
12/13/77		11:11	1.38	.52	20A	914	CODF 02
12/13/77		11:18	6.48	.57	209	915	CODF 02
12/13/77		11:20	1.43	.37	210	916	CODF 01
12/13/77		11:33	1.23	.72	211	917	CODF 02
12/13/77		11:34	.28	3.70	212	918	CODF 02
12/13/77		11:38	.30	.1A	213	919	CODF 06
12/13/77		11:39	.82	.42	214	920	CODF 02
12/13/77		11:40	.5A	.32	215	921	CODF 14
12/13/77		11:41	.68	1.02	216	922	CODF 12
12/13/77		11:45	2.9A	5.63	217	923	CODF 12
12/13/77		11:51	.37	3.92	21A	924	CODF 23
12/13/77		12:32	.08	1.12	219	925	CODF 1A
12/13/77		12:35	1.88	1.22	220	926	REMOVE RIBBONS FROM CONV AFLT
12/13/77		12:41	4.78	.4A	221	927	CODF 02
12/13/77		12:49	7.52	1.0A	222	92A	CODF 02
12/13/77		12:56	5.92	.93	223	929	CODF 12
12/13/77		13:06	9.07	.47	224	930	CODF 06
12/13/77		13:07	.53	.83	225	931	CODF 12
12/13/77		13:08	.17	1.05	226	932	CODF 02
12/13/77		13:11	1.95	1.63	227	933	CODF 02
12/13/77		13:13	.37	1.8A	22A	934	CODF 02
12/13/77		13:15	.12	.63	229	935	CODF 06
12/13/77		13:20	4.37	.40	230	936	CODF 12
12/13/77		13:21	.60	1.2A	231	937	FUZF HING IN CONV AFLT
12/13/77		13:23	.72	.65	232	93A	CODF 15
12/13/77		13:24	.35	.40	233	939	CODF 06
12/13/77		13:25	.60	.52	234	940	CODF 1A
12/13/77		13:27	1.48	1.12	235	941	CODF 23
12/13/77		13:29	.8A	.25	236	942	CODF 1A

MODULE 3 = FU7E ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODE
12/13/77		13:48	1.75	1.97	237	943	CONF 02
12/13/77		13:52	2.03	1.02	238	944	CONF 01
12/13/77		13:54	.98	.52	239	945	CONF 02
12/13/77		13:56	1.48	.28	240	946	CONF 02
12/13/77		13:57	.72	2.25	241	947	CONF 12
12/13/77		14:01	1.75	.68	242	948	CONF 02
12/13/77		14:02	.32	.38	243	949	CONF 18
12/13/77		14:03	.62	2.17	244	950	CONF 1A
12/13/77		14:06	.83	.28	245	951	CONF 02
12/13/77		14:07	.72	.97	246	952	CONF 02
12/13/77		14:08	.03	.48	247	953	CONF 02
12/13/77		14:12	3.52	.62	248	954	CONF 02
12/13/77		14:13	.38	.83	249	955	CONF 02
12/13/77		14:24	1.73	.27	250	956	CONF 02
12/13/77		14:25	.73	1.07	251	957	CONF 02
12/13/77		14:27	.93	.88	252	958	CONF 02
12/13/77		14:28	.12	.83	253	959	CONF 02
12/13/77		14:36	.92	.53	254	960	CONF 02
12/13/77		14:37	.47	.87	255	961	CONF 12
12/13/77		14:54	.20	.47	256	962	CONF 01
12/13/77		14:55	.53	.40	257	963	CONF 02
12/13/77		14:59	3.60	.55	258	964	CONF 07
END OF SHIFT AT 15:15							

12/15/77	07:30						
12/15/77		07:33	1.67	.43	259	965	CONF 06
12/15/77		07:35	1.57	.73	260	966	CONF 02
12/15/77		07:41	5.27	.42	261	967	CONF 14
12/15/77		07:44	2.58	.95	262	968	CONF 12
12/15/77		07:48	3.05	.32	263	969	CONF 02
12/15/77		07:50	1.68	.25	264	970	CONF 02
12/15/77		07:51	.75	.28	265	971	CONF 02
12/15/77		07:52	.72	.32	266	972	CONF 02
12/15/77		07:55	2.68	.65	267	973	CONF 02
12/15/77		08:00	4.35	.38	268	974	CONF 14
12/15/77		08:01	.62	.40	269	975	CONF 03
12/15/77		08:05	3.60	.22	270	976	CONF 02
12/15/77		08:06	.78	.53	271	977	CONF 02
12/15/77		08:09	2.47	.50	272	978	CONF 02
12/15/77		08:10	.50	.22	273	979	CONF 02

MODULE 3 = FUZF ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		08:11	.78	.63	274	980	CONF 02
12/15/77		08:12	.37	.31	275	981	CONF 1A
12/15/77		08:16	3.67	.37	276	982	CONF 11
12/15/77		08:17	.63	.28	277	983	CONF 02
12/15/77		08:19	1.72	.33	278	984	CONF 11
12/15/77		08:20	.67	.51	279	985	CONF 11
12/15/77		08:22	1.47	.57	280	986	CONF 11
12/15/77		08:24	1.43	.71	281	987	CONF 11
12/15/77		08:25	.27	.32	282	988	CONF 06
12/15/77		08:26	.68	.48	283	989	CONF 11
12/15/77		08:27	.52	7.25	284	990	REPLACED JET BLOCK
12/15/77		08:35	.75	.98	285	991	CONF 1A
12/15/77		08:36	.02	1.05	286	992	CONF 11
12/15/77		08:38	.95	.28	287	993	CONF 14
12/15/77		08:39	.72	.27	288	994	CONF 01
12/15/77		08:40	.73	.37	289	995	CONF 1A
12/15/77		08:41	.63	.12	290	996	CONF 06
12/15/77		08:42	.88	.22	291	997	CONF 02
12/15/77		08:45	2.78	.23	292	998	CONF 06
12/15/77		08:46	.77	.57	293	999	CONF 11
12/15/77		08:47	.43	1.63	294	1000	CONF 1A
12/15/77		09:00	8.60	8.62	295	1001	CONF 12
12/15/77		09:09	.38	.33	296	1002	CONF 01
12/15/77		09:10	.67	.13	297	1003	CONF 06
12/15/77		09:11	.87	.35	298	1004	CONF 14
12/15/77		09:12	.65	.40	299	1005	CONF 02
12/15/77		09:13	.60	1.93	300	1006	CONF 06
12/15/77		09:18	3.07	5.72	301	1007	FUZF JAMMED IN TAPP CONV
12/15/77		09:25	1.28	.25	302	1008	CONF 06
12/15/77		09:47	4.75	8.47	303	1009	CONF 25
12/15/77		10:03	7.53	3.50	304	1010	CONF 07
12/15/77		10:07	.50	5.73	305	1011	CONF 1A
12/15/77		10:15	2.27	1.52	306	1012	CONF 12
12/15/77		11:19	4.17	.60	307	1013	CONF 12
12/15/77		11:24	4.40	.42	308	1014	CONF 01
12/15/77		11:29	4.58	.97	309	1015	CONF 23
12/15/77		11:31	1.03	.33	310	1016	CONF 14
12/15/77		11:32	.67	.42	311	1017	CONF 02
12/15/77		11:33	.58	.42	312	1018	CONF 01
12/15/77		11:36	2.58	.57	313	1019	CONF 07

MODUL F 3 = FUZE ASSMRLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/15/77		11:39	2.43	.80	314	1020	CONF 02
12/15/77		11:40	.20	.40	315	1021	CONF 02
12/15/77		11:41	.60	1.97	316	1022	CONF 23
12/15/77		11:44	1.03	1.25	317	1023	CLEANED A STATION
12/15/77		11:46	.75	.75	318	1024	CONF 12
12/15/77		11:47	.25	.58	319	1025	CONF 14
12/15/77		12:35	10.42	.82	320	1026	CONF 02
12/15/77		12:36	.18	1.37	321	1027	CONF 12
12/15/77		12:38	.63	.53	322	1028	CONF 12
12/15/77		12:39	.47	1.33	323	1029	CONF 23
12/15/77		12:41	.67	1.23	324	1030	CONF 02
12/15/77		12:45	.33	.33	325	1031	CONF 18
12/15/77		12:46	.67	4.88	326	1032	CONF 28
12/15/77		12:51	.12	.45	327	1033	CONF 11
12/15/77		12:52	.55	.50	328	1034	CONF 07
12/15/77		13:21	1.10	.52	329	1035	CONF 02
12/15/77		13:25	3.48	.33	330	1036	CONF 02
12/15/77		13:26	.67	.47	331	1037	CONF 02
12/15/77		13:46	3.53	.93	332	1038	CONF 23
12/15/77		13:55	8.07	.37	333	1039	CONF 01
12/15/77		13:56	.63	.40	334	1040	CONF 01
12/15/77		14:00	3.60	.40	335	1041	CONF 02
12/15/77		14:01	.60	.20	336	1042	CONF 06
12/15/77		14:05	3.80	.50	337	1043	CONF 25
12/15/77		14:11	5.50	.67	338	1044	CONF 18
12/15/77		14:12	.33	1.42	339	1045	CONF 02
12/15/77		14:14	.58	1.68	340	1046	CONF 23
12/15/77		14:16	.32	.43	341	1047	CONF 18
12/15/77		14:17	.57	.33	342	1048	CONF 08
12/15/77		14:18	.67	.52	343	1049	CONF 02
12/15/77		14:25	6.48	.37	344	1050	CONF 14
12/15/77		14:30	4.63	.35	345	1051	CONF 11
12/15/77		14:31	.65	.25	346	1052	CONF 14
12/15/77		14:32	.75	.75	347	1053	CONF 12
12/15/77		14:33	.25	.57	348	1054	CONF 02
12/15/77		14:39	5.43	.40	349	1055	CONF 01
12/15/77		14:40	.60	.42	350	1056	CONF 25
12/15/77		14:41	.85	.58	351	1057	CONF 23
12/15/77		14:45	3.15	.43	352	1058	CONF 02
12/15/77		14:46	.57	.53	353	1059	CONF 18

MODULE 3 = FU7F ASSEMBLY STATION SW (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/15/77		14:47	.47	.40	354	1060	CODE 01
12/15/77		14:50	2.60	.27	355	1061	CODE 14
12/15/77		14:51	.73	.37	356	1062	CODE 01
12/15/77		14:53	1.63	1.02	357	1063	CODE 12
12/15/77		14:55	.98	.57	358	1064	CODE 12
12/15/77		15:00	4.43	.35	359	1065	CODE 17
12/15/77		15:02	1.65	.62	360	1066	CODE 14
12/15/77		15:07	4.38	.28	361	1067	CODE 08
END OF SHIFT AT 15:15							
12/16/77	07:30	07:39	9.72	2.00	362	1068	CODE 11
12/16/77		07:41	0.00	5.25	363	1069	CODE 11
12/16/77		07:48	1.75	3.27	364	1070	CODE 02
12/16/77		07:52	.73	.93	365	1071	CODE 11
12/16/77		07:54	1.07	.80	366	1072	CODE 02
12/16/77		07:56	1.20	.32	367	1073	CODE 07
12/16/77		07:58	1.68	.72	368	1074	CODE 02
12/16/77		08:00	1.28	1.42	369	1075	CODE 02
12/16/77		08:04	2.58	1.27	370	1076	CODE 02
12/16/77		08:16	10.73	1.75	371	1077	CODE 12
12/16/77		08:24	6.25	.48	372	1078	CODE 12
12/16/77		08:27	2.52	.40	373	1079	CODE 01
12/16/77		08:32	4.60	.67	374	1080	CODE 12
12/16/77		08:33	.33	.33	375	1081	CODE 18
12/16/77		08:37	3.67	.33	376	1082	CODE 18
12/16/77		08:39	1.67	.50	377	1083	CODE 14
12/16/77		08:40	.50	.93	378	1084	CODE 11
12/16/77		08:41	.07	.37	379	1085	CODE 11
12/16/77		08:42	.63	2.32	380	1086	ADJUSTED AIR CAN
12/16/77		08:49	4.68	.37	381	1087	CODE 01
12/16/77		08:51	1.63	.47	382	1088	CODE 18
12/16/77		08:55	3.53	.75	383	1089	CODE 18
12/16/77		08:56	.25	.57	384	1090	CODE 11
12/16/77		08:57	.43	1.10	385	1091	CODE 23
12/16/77		09:00	1.90	.17	386	1092	CODE 14
12/16/77		09:01	.83	.47	387	1093	CODE 11
12/16/77		09:06	4.53	.37	388	1094	CODE 01
12/16/77		09:09	2.63	.45	389	1095	CODE 18
12/16/77		09:10	.55	.63	390	1096	CODE 12

MODULE 3 = FUZE ASSEMBLY STATION SW (CONTO) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/16/77		09:13	2.37	.57	391	1097	COOF 18
12/16/77		09:15	1.43	.42	392	109A	COOF 11
12/16/77		09:17	1.58	.95	393	1099	COOF 23
12/16/77		09:19	1.05	.35	394	1100	COOF 14
12/16/77		09:48	11.65	.45	395	1101	COOF 01
12/16/77		09:52	3.55	.8A	396	1102	COOF 23
12/16/77		09:53	.12	1.3A	397	1103	COOF 01
12/16/77		09:55	.62	1.2A	39A	1104	COOF 01
12/16/77		09:59	2.72	.87	399	1105	COOF 23
12/16/77		10:02	2.13	.40	400	1106	COOF 1A
12/16/77		10:03	.60	.97	401	1107	COOF 23
12/16/77		10:05	1.03	1.73	402	110A	COOF 29
12/16/77		10:08	1.27	.37	403	1109	COOF 1A
12/16/77		10:10	1.63	.63	404	1110	COOF 02
12/16/77		10:15	4.37	.43	405	1111	COOF 14
12/16/77		10:17	1.57	.22	406	1112	COOF 06
12/16/77		10:18	.78	.47	407	1113	COOF 11
12/16/77		10:20	1.53	.32	40A	1114	COOF 02
12/16/77		10:27	6.68	.47	409	1115	COOF 1A
12/16/77		10:29	1.53	.57	410	1116	COOF 1A
12/16/77		10:31	1.43	.40	411	1117	COOF 02
12/16/77		10:35	3.60	1.53	412	111A	COOF 14
12/16/77		10:38	1.47	.8A	413	1119	COOF 23
12/16/77		10:39	.12	2.12	414	1120	COOF 29
12/16/77		10:43	1.88	.47	415	1121	COOF 01
12/16/77		10:49	5.53	.27	416	1122	COOF 14
12/16/77		10:54	4.73	.37	417	1123	COOF 11
12/16/77		10:56	1.63	.62	41A	1124	COOF 1A
12/16/77		11:00	3.38	.2A	419	1125	COOF 1A
12/16/77		11:01	.72	.73	420	1126	COOF 1A
12/16/77		11:02	.27	.32	421	1127	COOF 1A
12/16/77		11:10	7.68	.75	422	112A	COOF 1A
12/16/77		11:12	1.25	.80	423	1129	COOF 1A
12/16/77		11:13	.20	A.5A	424	1130	COOF 11
12/16/77		11:23	1.42	.5A	425	1131	COOF 1A
12/16/77		11:24	.42	.40	426	1132	COOF 02
12/16/77		11:31	6.60	.27	427	1133	COOF 1A
12/16/77		11:34	2.73	.32	42A	1134	COOF 1A
12/16/77		11:35	.68	.77	429	1135	COOF 1A
12/16/77		11:36	.23	.8A	430	1136	COOF 15

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77	11:39		2.12	.32	431	1137	CODF 11
12/16/77	11:40		.68	.47	432	1138	CODF 11
12/16/77	11:42		1.53	.47	433	1139	CODF 11
12/16/77	11:43		.53	.42	434	1140	CODF 18
12/16/77	11:45		1.58	.33	435	1141	CODF 14
12/16/77	11:47		1.67	.33	436	1142	CODF 11
12/16/77	12:35		12.67	.32	437	1143	CODF 02
12/16/77	12:36		.68	.35	438	1144	CODF 14
12/16/77	12:44		7.65	.28	439	1145	CODF 18
12/16/77	12:45		.72	.27	440	1146	CODF 01
12/16/77	12:46		.73	1.02	441	1147	CODF 18
12/16/77	12:48		.98	.78	442	1148	CODF 11
12/16/77	12:50		1.22	.32	443	1149	CODF 01
12/16/77	12:51		.68	.42	444	1150	CODF 11
12/16/77	12:52		.58	.33	445	1151	CODF 11
12/16/77	12:53		.67	1.10	446	1152	CODF 11
12/16/77	12:55		.90	1.42	447	1153	CODF 11
12/16/77	12:57		.58	.22	448	1154	CODF 11
12/16/77	12:58		.78	.25	449	1155	CODF 11
12/16/77	12:59		.75	.33	450	1156	CODF 01
12/16/77	13:00		.67	1.02	451	1157	CODF 18
12/16/77	13:02		.98	.53	452	1158	CODF 14
12/16/77	13:03		.47	.55	453	1159	CODF 15
12/16/77	13:04		.45	.22	454	1160	CODF 01
12/16/77	13:05		.78	.15	455	1161	CODF 18
12/16/77	13:07		1.85	.28	456	1162	CODF 01
12/16/77	13:08		.72	.33	457	1163	CODF 18
12/16/77	13:09		.67	.52	458	1164	CODF 18
12/16/77	13:10		.48	.67	459	1165	CODF 02
12/16/77	13:14		3.33	.45	460	1166	CODF 11
12/16/77	13:15		.55	.72	461	1167	CODF 11
12/16/77	13:20		4.28	.27	462	1168	CODF 18
12/16/77	13:21		.73	.33	463	1169	CODF 11
12/16/77	13:25		3.67	.32	464	1170	CODF 14
12/16/77	13:26		.68	.30	465	1171	CODF 11
12/16/77	13:48		5.70	.53	466	1172	CODF 02
12/16/77	13:50		1.47	.25	467	1173	CODF 14
12/16/77	13:52		1.75	.27	468	1174	CODF 01
12/16/77	13:53		.73	.25	469	1175	CODF 18
12/16/77	13:54		.75	.30	470	1176	CODF 02

MODULE 3 = FUZE ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/16/77		14:00	5.70	.42	471	1177	CODF 14
12/16/77		14:01	.58	.42	472	1178	CODF 02
12/16/77		14:04	2.58	.40	473	1179	CODF 1A
12/16/77		14:05	.60	.32	474	1180	CODF 11
12/16/77		14:06	.68	.40	475	1181	CODF 1A
12/16/77		14:07	.60	.72	476	1182	CODF 15
12/16/77		14:10	2.28	.43	477	1183	CODF 11
12/16/77		14:11	.57	1.67	478	1184	CODF 1A
12/16/77		14:14	1.33	.67	479	1185	CODF 1A
12/16/77		14:16	1.33	1.32	480	1186	CODF 1A
12/16/77		14:18	.68	1.17	481	1187	CODF 1A
12/16/77		14:21	1.83	.55	482	1188	CODF 1A
12/16/77		14:22	.45	.43	483	1189	CODF 07
12/16/77		14:23	.57	.38	484	1190	CODF 1A
12/16/77		14:24	.62	1.02	485	1191	CODF 1A
12/16/77		14:26	.98	2.22	486	1192	CODF 02
12/16/77		14:31	2.78	.40	487	1193	CODF 01
12/16/77		14:32	.60	.13	488	1194	CODF 06
12/16/77		14:40	7.87	1.18	489	1195	CODF 25
12/16/77		14:42	.82	.40	490	1196	CODF 02
12/16/77		14:44	1.60	.40	491	1197	CODF 14
12/16/77		14:45	.60	.83	492	1198	CODF 02
12/16/77		14:46	.17	1.40	493	1199	CODF 02
12/16/77		14:48	.60	2.07	494	1200	CODF 02
12/16/77		14:52	1.93	.33	495	1201	CODF 01
12/16/77		14:53	.67	.63	496	1202	CODF 02
12/16/77		14:58	4.37	.52	497	1203	CODF 15
12/16/77		15:00	1.48	.77	498	1204	CODF 02
12/16/77		15:01	.23	.22	499	1205	CODF 02
12/16/77		15:02	.78	.32	500	1206	CODF 01
12/16/77		15:06	3.68	.28	501	1207	CODF 1A
12/16/77		15:08	1.72	.28	502	1208	CODF 1A
12/16/77		15:09	.72	.22	503	1209	CODF 1A
END OF SHFT AT 15:14							
01/25/78	07:45						
01/25/78		07:55	14.78	.25	504	1210	CODF 01
01/25/78		08:00	4.75	.28	505	1211	CODF 02
01/25/78		08:01	.72	.72	506	1212	CODF 02
01/25/78		08:04	2.28	.28	507	1213	CODF 14

MODULE 3 = FUZE ASSEMBLY STATION SW (CONTD) STATION 302 AT LSAAP

(CONTD)

MODULE 3 = FUZE ASSEMBLY STATION SW

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/25/78		08:06	1.72	.17	50A	1214	CODF 01
01/25/78		08:08	1.83	.22	509	1215	CODF 14
01/25/78		08:14	5.78	.6A	510	1216	CODF 10
01/25/78		08:16	1.32	1.50	511	1217	CODF 05
01/25/78		08:19	1.50	.53	512	1218	CODF 02
01/25/78		08:21	1.47	.25	513	1219	CODF 02
01/25/78		08:22	.75	1.22	514	1220	CODF 25
01/25/78		08:26	2.78	.35	515	1221	CODF 14
01/25/78		08:27	.65	1.00	516	1222	CODF 11
01/25/78		08:30	2.00	.25	517	1223	CODF 02
01/25/78		08:33	2.75	.32	518	1224	CODF 02
01/25/78		08:35	1.68	.57	519	1225	CODF 02
01/25/78		08:37	1.43	.47	520	1226	CODF 02
01/25/78		08:40	2.53	.43	521	1227	CODF 02
01/25/78		08:42	1.57	1.12	522	1228	CODF 02
01/25/78		08:44	.88	1.35	523	1229	CODF 02
01/25/78		08:47	1.65	1.37	524	1230	CODF 02
01/25/78		08:49	.63	.8A	525	1231	CODF 02
01/25/78		08:50	.12	1.40	526	1232	CODF 06
01/25/78		08:52	.60	.20	527	1233	CODF 01
01/25/78		08:5A	5.80	.63	52A	1234	CODF 02
01/25/78		09:01	2.37	.37	529	1235	CODF 1A
01/25/78		09:04	2.63	.17	530	1236	CODF 02
01/25/78		09:06	1.83	.87	531	1237	CODF 02
01/25/78		09:0A	1.13	.30	532	1238	CODF 02
01/25/78		09:09	.70	.73	533	1239	CODF 02
01/25/78		09:13	3.27	.40	534	1240	CODF 02
01/25/78		09:15	1.60	.22	535	1241	CODF 02
01/25/78		09:16	.78	.23	536	1242	CODF 02
01/25/78		09:1A	1.77	.17	537	1243	CODF 02
01/25/78		09:20	1.83	.52	538	1244	CODF 1A
01/25/78		09:24	3.48	.50	539	1245	CODF 02
01/25/78		09:52	27.50	.40	540	1246	CODF 02
01/25/78		09:53	.60	1.63	541	1247	CODF 02
01/25/78		09:56	1.37	1.67	542	1248	CODF 02
01/25/78		10:03	5.33	1.37	543	1249	CODF 02
01/25/78		10:05	.63	.50	544	1250	CODF 02
01/25/78		10:0A	2.50	.28	545	1251	CODF 01
01/25/78		10:10	1.72	.50	546	1252	CODF 02
01/25/78		10:12	1.50	1.05	547	1253	CODF 02

MODULE 3 = FUZF ASSEMBLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMFR	SYSTEM FAILURE NUMBER	FAILURE MOUF
01/25/78		10:14	.95	.35	548	1254	COUF 02
01/25/78		10:15	.65	.92	549	1255	COUF 02
01/25/78		10:24	1.47	.40	550	1256	COUF 02
01/25/78		10:25	.60	1.02	551	1257	COUF 02
01/25/78		10:27	.98	.53	552	1258	COUF 02
01/25/78		10:28	.47	.32	553	1259	COUF 02
01/25/78		10:29	.68	.28	554	1260	COUF 02
01/25/78		10:30	.72	1.80	555	1261	COUF 02
01/25/78		10:32	.20	.50	556	1262	COUF 02
01/25/78		10:34	1.50	.47	557	1263	COUF 01
01/25/78		10:36	1.53	1.10	558	1264	COUF 01
01/25/78		11:02	6.03	.52	559	1265	COUF 01
01/25/78		11:06	3.48	.40	560	1266	COUF 01
01/25/78		11:32	8.07	.82	561	1267	COUF 01
01/25/78		11:36	3.18	.88	562	1268	COUF 01
01/25/78		12:32	20.12	.31	563	1269	COUF 01
01/25/78		12:43	10.67	.42	564	1270	COUF 01
01/25/78		12:46	2.58	.20	565	1271	COUF 01
01/25/78		12:54	5.05	.61	566	1272	COUF 01
01/25/78		13:00	5.37	.72	567	1273	COUF 01
01/25/78		13:15	14.28	.57	568	1274	COUF 01
01/25/78		13:21	5.43	.60	569	1275	COUF 01
01/25/78		13:23	1.40	.35	570	1276	COUF 01
01/25/78		13:52	13.65	.57	571	1277	COUF 01
01/25/78		13:58	5.43	.28	572	1278	COUF 14
01/25/78		14:11	12.72	.78	573	1279	COUF 14
01/25/78		14:14	2.22	.62	574	1280	COUF 05
01/25/78		14:15	.38	.35	575	1281	COUF 14
01/25/78		14:16	.65	.31	576	1282	COUF 05
01/25/78		14:19	2.67	.20	577	1283	COUF 14
01/25/78		14:22	2.80	.75	578	1284	COUF 02
01/25/78		14:24	1.25	.27	579	1285	COUF 14
01/25/78		14:26	1.73	.27	580	1286	COUF 14
01/25/78		14:28	1.73	.51	581	1287	COUF 14
01/25/78		14:32	3.47	.40	582	1288	COUF 14
01/25/78		14:40	7.60	.57	583	1289	COUF 10
01/25/78		14:45	4.43	.77	584	1290	COUF 02
01/25/78		14:49	3.23	.28	585	1291	COUF 18
01/25/78		14:53	3.72	.23	586	1292	COUF 18
01/25/78		14:54	.77	.17	587	1293	COUF 14

MODULE 3 = FUZF ASSMRLY STATION 5W (CONTD) STATION 302 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/25/78							

END OF SHIFT AT 14:58

STATION 304 AT LSAAP

MODULE 4 = FU7F ASSEMBLY STATION 7W

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/06/77	07:30				1	1294	CODF 1A
12/06/77		07:43	13.00	.62	2	1295	CODF 17
12/06/77		07:44	.38	.22	3	1296	CODF 02
12/06/77		07:45	.78	1.93	4	1297	CODF 01
12/06/77		07:50	3.07	.33	5	1298	CODF 02
12/06/77		07:52	1.67	.83	6	1299	CODF 14
12/06/77		07:53	.17	1.07	7	1300	CODF 02
12/06/77		07:55	.93	1.05	8	1301	CODF 1A
12/06/77		07:57	.95	.40	9	1302	CODF 01
12/06/77		07:59	1.60	.45	10	1303	CODF 1A
12/06/77		08:04	4.55	.90	11	1304	CODF 05
12/06/77		08:05	.10	.47	12	1305	CODF 01
12/06/77		08:06	.53	.35	13	1306	CODF 02
12/06/77		08:10	3.65	.55	14	1307	CODF 01
12/06/77		08:14	3.45	.47	15	1308	CODF 05
12/06/77		08:16	1.53	.50	16	1309	CODF 1A
12/06/77		08:17	.50	1.13	17	1310	CODF 05
12/06/77		08:19	.87	.50	18	1311	CODF 01
12/06/77		08:20	.50	.32	19	1312	CODF 02
12/06/77		08:24	3.68	.32	20	1313	CODF 1A
12/06/77		08:30	5.68	.52	21	1314	CODF 1A
12/06/77		08:42	11.48	.42	22	1315	CODF 1A
12/06/77		08:43	.58	.42	23	1316	CODF 03
12/06/77		08:52	8.58	.77	24	1317	CODF 14
12/06/77		08:54	1.23	.63	25	1318	CODF 01
12/06/77		08:58	3.37	.45	26	1319	CODF 05
12/06/77		08:59	.55	.50	27	1320	CODF 05
12/06/77		09:06	6.50	.38	28	1321	CODF 03
12/06/77		09:11	4.62	.65	29	1322	CODF 03
12/06/77		09:25	13.35	3.63	30	1323	CODF 17
12/06/77		09:50	4.37	1.97	31	1324	CODF 1A
12/06/77		10:00	8.03	.92	32	1325	CODF 1A
12/06/77		10:09	8.08	.32	33	1326	CODF 17
12/06/77		10:12	2.68	.75	34	1327	CODF 12
12/06/77		10:15	2.25	.82	35	1328	CODF 1A
12/06/77		10:25	9.18	.63	36	1329	CODF 01
12/06/77		10:26	.37	.53	37	1330	CODF 14
12/06/77		10:42	9.00	1.32	38	1331	CODF 02
12/06/77		10:45	1.68	.67	39	1332	CODF 14
12/06/77		10:54	8.33	.40			

MODULE 4 = FU7F ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		11:02	7.60	.40	40	1333	CODF 14
12/06/77		11:09	6.60	.95	41	1334	CODF 14
12/06/77		11:11	1.05	.72	42	1335	CODF 02
12/06/77		11:12	.28	.33	43	1336	CODF 02
12/06/77		11:15	2.67	1.07	44	1337	CODF 01
12/06/77		11:17	.93	.50	45	1338	CODF 01
12/06/77		11:27	9.50	.40	46	1339	CODF 18
12/06/77		11:28	.60	.72	47	1340	CODF 03
12/06/77		11:35	6.28	.82	48	1341	CODF 17
12/06/77		11:37	1.18	.73	49	1342	CODF 02
12/06/77		11:38	.27	.32	50	1343	CODF 01
12/06/77		11:39	.68	.50	51	1344	CODF 01
12/06/77		11:41	1.50	.30	52	1345	CODF 01
12/06/77		11:43	1.70	.45	53	1346	CODF 01
12/06/77		11:44	.55	.43	54	1347	CODF 01
12/06/77		11:45	.57	1.03	55	1348	CODF 01
12/06/77		11:47	.97	1.13	56	1349	CODF 02
12/06/77		11:49	.87	.28	57	1350	CODF 05
12/06/77		11:50	.72	1.13	58	1351	CODF 03
12/06/77		11:52	.87	.47	59	1352	CODF 12
12/06/77		12:33	4.53	1.58	60	1353	CODF 12
12/06/77		12:35	.42	3.27	61	1354	CODF 12
12/06/77		12:40	1.73	2.28	62	1355	CODF 18
12/06/77		12:43	.72	.90	63	1356	CODF 18
12/06/77		12:45	1.10	.35	64	1357	CODF 01
12/06/77		12:46	.65	.37	65	1358	CODF 05
12/06/77		12:47	.63	7.32	66	1359	CODF 12
12/06/77		12:55	.68	.33	67	1360	CODF 01
12/06/77		12:56	.67	2.92	68	1361	CODF 18
12/06/77		13:00	1.08	.58	69	1362	CODF 12
12/06/77		13:04	3.42	.42	70	1363	CODF 17
12/06/77		13:06	1.58	.40	71	1364	CODF 02
12/06/77		13:07	.60	.82	72	1365	CODF 17
12/06/77		13:09	1.18	2.27	73	1366	CODF 17
12/06/77		13:12	.73	.43	74	1367	CODF 01
12/06/77		13:19	.95	.37	75	1368	CODF 12
12/06/77		13:20	.63	1.10	76	1369	CODF 02
12/06/77		13:22	.90	.50	77	1370	CODF 12
12/06/77		14:02	3.52	.32	78	1371	CODF 18
12/06/77		14:03	.68	.37	79	1372	CODF 17

MODULE 4 = FU7F ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/06/77		14:04	.63	2.17	80	1373	CODE 05
12/06/77		14:07	.83		81	1374	CODE 02
12/06/77		14:14	.35	.40	82	1375	CODE 12
12/06/77		14:15	.60	.62	83	1376	CODE 1A
12/06/77		14:18	2.38	.43	84	1377	CODE 12
12/06/77		14:19	.57	.87	85	1378	CODE 02
12/06/77		14:30	5.32	.62	86	1379	CODE 02
12/06/77		14:38	7.38	.33	87	1380	CODE 01
12/06/77		14:48	9.67	.55	88	1381	CODE 01
12/06/77		14:53	4.45	.43	89	1382	CODE 02
12/06/77		14:55	1.57	.57	90	1383	CODE 19
12/06/77		14:57	1.43	.32	91	1384	CODE 07
12/06/77		14:58	.68	.83	92	1385	CODE 07
12/06/77		15:04	5.17	.40	93	1386	CODE 01
12/06/77							

07:30							
12/08/77		08:08	3.83	.43	94	1387	CODE 01
12/08/77		08:09	.57	1.05	95	1388	CODE 01
12/08/77		08:11	.95	2.22	96	1389	CODE 02
12/08/77		08:16	2.78	.90	97	1390	CODE 12
12/08/77		08:21	4.10	.62	98	1391	CODE 02
12/08/77		08:23	1.38	1.22	99	1392	CODE 12
12/08/77		08:28	3.78	.98	100	1393	CODE 12
12/08/77		08:30	1.02	.52	101	1394	CODE 02
12/08/77		08:32	1.48	1.07	102	1395	CODE 09
12/08/77		08:34	.93	.67	103	1396	CODE 03
12/08/77		08:36	1.33	1.68	104	1397	CODE 02
12/08/77		08:39	1.32	.43	105	1398	CODE 02
12/08/77		08:40	.57	1.13	106	1399	CODE 02
12/08/77		08:42	.87	.90	107	1400	CODE 02
12/08/77		08:43	.10	2.83	108	1401	CODE 02
12/08/77		08:51	5.17	.43	109	1402	CODE 01
12/08/77		08:52	.57	.57	110	1403	CODE 05
12/08/77		08:54	1.43	.42	111	1404	CODE 1A
12/08/77		09:03	8.58	.42	112	1405	CODE 02
12/08/77		09:47	26.58	.42	113	1406	CODE 02
12/08/77		09:53	5.58	.47	114	1407	CODE 1A
12/08/77		09:54	.53	.42	115	1408	CODE 01
12/08/77		09:55	.58	.32	116	1409	CODE 01

MODULE 4 = FUZF ASSEMBLY STATION 7M (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/0A/77		10:11	15.68	.35	117	1410	CONF 01
12/0A/77		10:15	3.65	.37	118	1411	CONF 1A
12/0A/77		10:25	9.63	.33	114	1412	CONF 01
12/0A/77		10:26	.67	.70	120	1413	CONF 1A
12/0A/77		10:27	.30	.32	121	1414	CONF 01
12/0A/77		10:30	2.68	.47	122	1415	CONF 1A
12/0A/77		10:32	1.53	1.4A	123	1416	CONF 02
12/0A/77		10:36	2.52	.8A	124	1417	CONF 02
12/0A/77		10:37	.12	.37	125	141A	CONF 01
12/0A/77		10:41	3.63	.37	126	1419	CONF 01
12/0A/77		10:42	.63	.7A	127	1420	CONF 1A
12/0A/77		10:4A	5.22	.87	128	1421	CONF 01
12/0A/77		10:52	3.13	.75	129	1422	CONF 02
12/0A/77		10:54	1.25	.43	130	1423	CONF 07
12/0A/77		10:56	1.57	.43	131	1424	CONF 1A
12/0A/77		11:00	3.57	.53	132	1425	CONF 14
12/0A/77		11:02	1.47	.9A	133	1426	CONF 02
12/0A/77		11:04	1.02	.42	134	1427	CONF 01
12/0A/77		11:05	.58	.70	135	142A	CONF 05
12/0A/77		11:16	10.30	.40	136	1429	CONF 01
12/0A/77		11:18	1.60	.57	137	1430	CONF 01
12/0A/77		11:19	.43	.57	13A	1431	CONF 01
12/0A/77		11:24	4.43	1.37	139	1432	CONF 0A
12/0A/77		11:2A	2.63	.87	140	1433	CONF 02
12/0A/77		11:30	1.13	.95	141	1434	CONF 02
12/0A/77		11:34	3.05	.82	142	1435	CONF 1A
12/0A/77		11:39	4.18	.97	143	1436	CONF 12
12/0A/77		11:40	.03	.43	144	1437	CONF 02
12/0A/77		11:43	2.57	.63	145	143A	CONF 12
12/0A/77		11:44	.37	1.12	146	1439	CONF 02
12/0A/77		11:46	.88	.42	147	1440	CONF 02
12/0A/77		11:47	.58	7.25	14A	1441	CONF 12
12/0A/77		13:48	3.75	.70	149	1442	CONF 02
12/0A/77		13:52	3.30	.41	150	1443	CONF 12
12/0A/77		13:54	1.57	1.33	151	1444	CONF 02
12/0A/77		13:59	3.67	.43	152	1445	CONF 01
12/0A/77		14:04	4.57	.57	153	1446	CONF 1A
12/0A/77		14:05	.43	.5A	154	1447	CONF 07
12/0A/77		14:06	.42	1.07	155	144A	CONF 1A
12/0A/77		14:0A	.93	.67	156	1449	CONF 02

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
12/08/77		14:14	5:33	1:08	157	1450	CDDF 02	
12/08/77		14:16	.12	.43	158	1451	CDDF 02	
12/08/77		14:18	1:57	.38	159	1452	CDDF 01	
12/08/77		14:19	.62	1:72	160	1453	CDDF 02	
12/08/77		14:22	1:28	.75	161	1454	CDDF 18	
12/08/77		14:23	.25	.57	162	1455	CDDF 14	
12/08/77		14:25	1:43	1:32	163	1456	CDDF 18	
12/08/77		14:32	5:68	.43	164	1457	CDDF 18	
12/08/77		14:34	1:57	.37	165	1458	CDDF 01	
12/08/77		14:36	1:63	.83	166	1459	CDDF 02	
12/08/77		14:39	2:17	.72	167	1460	CDDF 02	
12/08/77		14:40	.28	.92	168	1461	CDDF 18	
12/08/77		14:44	3:08	1:97	169	1462	CDDF 12	
12/08/77		14:47	1:03	.35	170	1463	CDDF 14	
12/08/77		14:48	.65	.83	171	1464	CDDF 02	
12/08/77		14:50	1:17	1:37	172	1465	CDDF 02	
12/08/77		14:52	.63	8:32	173	1466	CDDF 15	
12/08/77		15:02	1:68	3:43	174	1467	CDDF 07	
12/08/77			END OF SHIFT AT 15:10					
12/09/77	07:30							
12/09/77		07:32	6:57	.43	175	1468	CDDF 05	
12/09/77		07:33	.57	.57	176	1469	CDDF 05	
12/09/77		07:37	3:43	.52	177	1470	CDDF 05	
12/09/77		07:38	.48	.75	178	1471	CDDF 02	
12/09/77		07:48	9:25	.33	179	1472	CDDF 18	
12/09/77		07:49	.67	.33	180	1473	CDDF 14	
12/09/77		07:52	2:67	.35	181	1474	CDDF 14	
12/09/77		07:53	.65	.43	182	1475	CDDF 01	
12/09/77		07:54	.57	.37	183	1476	CDDF 02	
12/09/77		07:55	.63	.43	184	1477	CDDF 02	
12/09/77		07:56	.57	.47	185	1478	CDDF 01	
12/09/77		07:57	.53	.80	186	1479	CDDF 05	
12/09/77		07:59	1:20	.88	187	1480	CDDF 01	
12/09/77		08:02	2:12	.55	188	1481	CDDF 02	
12/09/77		08:06	3:45	.65	189	1482	CDDF 05	
12/09/77		08:08	1:35	.37	190	1483	CDDF 01	
12/09/77		08:10	1:63	.68	191	1484	CDDF 18	
12/09/77		08:16	5:32	.77	192	1485	CDDF 02	
12/09/77		08:20	3:23	1:53	193	1486	CDDF 02	

MODULE 4 = FUZF ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		08:26	4.47	4.33	194	1487	CODF 01
12/09/77		08:31	.67	1.12	195	1488	CODF 02
12/09/77		08:33	.88	.98	196	1489	CODF 02
12/09/77		08:40	6.02	1.20	197	1490	CODF 02
12/09/77		08:44	2.80	1.58	198	1491	CODF 02
12/09/77		08:51	5.42	.52	199	1492	CODF 14
12/09/77		08:55	3.48	.54	200	1493	CODF 14
12/09/77		09:00	4.47	.35	201	1494	CODF 14
12/09/77		09:01	.65	.47	202	1495	CODF 18
12/09/77		09:07	5.53	.43	203	1496	CODF 14
12/09/77		09:09	1.57	.67	204	1497	CODF 14
12/09/77		09:10	.33	1.25	205	1498	CODF 09
12/09/77		09:12	.75	.78	206	1499	CODF 01
12/09/77		09:14	1.22	.57	207	1500	CODF 01
12/09/77		09:16	1.43	.67	208	1501	CODF 18
12/09/77		09:55	23.33	.52	209	1502	CODF 01
12/09/77		09:56	.48	.45	210	1503	CODF 01
12/09/77		10:04	7.55	.62	211	1504	CODF 14
12/09/77		10:08	3.38	.57	212	1505	CODF 18
12/09/77		10:12	3.43	.65	213	1506	CODF 18
12/09/77		10:14	1.35	3.38	214	1507	CODF 15
12/09/77		10:25	7.62	.52	215	1508	CODF 14
12/09/77		10:26	.48	1.20	216	1509	CODF 02
12/09/77		10:29	1.80	1.70	217	1510	CODF 12
12/09/77		10:32	1.30	1.12	218	1511	CODF 18
12/09/77		10:34	.88	.72	219	1512	CODF 18
12/09/77		10:35	.28	1.50	220	1513	CODF 02
12/09/77		10:39	2.50	.58	221	1514	CODF 18
12/09/77		10:40	.42	1.18	222	1515	CODF 02
12/09/77		10:43	1.82	.80	223	1516	CODF 18
12/09/77		10:44	.20	1.60	224	1517	CODF 12
12/09/77		10:47	1.40	1.30	225	1518	CODF 14
12/09/77		10:53	4.70	.57	226	1519	CODF 18
12/09/77		10:55	1.43	.90	227	1520	CODF 18
12/09/77		10:56	.10	.88	228	1521	CODF 18
12/09/77		10:58	1.12	1.78	229	1522	CODF 02
12/09/77		11:00	.22	.57	230	1523	CODF 05
12/09/77		11:03	2.43	.58	231	1524	CODF 18
12/09/77		11:04	.42	.83	232	1525	CODF 02
12/09/77		11:07	2.17	1.53	233	1526	CODF 12

MODULE 4 = FUZE ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		11:21	12:47	1.12	234	1527	CODF 12
12/09/77		11:24	1:08	1.50	235	1528	CODF 12
12/09/77		11:26	.50	1.10	236	1529	CODF 1A
12/09/77		11:28	.90	1.35	237	1530	CODF 02
12/09/77		11:32	2:65	1.03	238	1531	CODF 02
12/09/77		11:36	2:97	.58	239	1532	CODF 01
12/09/77		11:38	1:42	1.72	240	1533	CODF 01
12/09/77		11:40	.28	2.50	241	1534	CODF 12
12/09/77		12:37	19:50	.50	242	1535	CODF 05
12/09/77		12:42	4:50	.48	243	1536	CODF 1A
12/09/77		12:53	10:52	.42	244	1537	CODF 02
12/09/77		12:54	.58	.37	245	1538	CODF 12
12/09/77		13:01	6:63	.50	246	1539	CODF 01
12/09/77		13:10	8:50	.65	247	1540	CODF 01
12/09/77		13:14	3:35	.37	248	1541	CODF 01
12/09/77		13:15	.63	.33	249	1542	CODF 03
12/09/77		13:16	.67	.43	250	1543	CODF 01
12/09/77		13:18	1:57	1.02	251	1544	CODF 05
12/09/77		13:20	.98	2.18	252	1545	CODF 01
12/09/77		13:25	2:82	4.10	253	1546	CODF 09
12/09/77		13:57	11:90	.53	254	1547	CODF 14
12/09/77		14:03	5:47	.33	255	1548	CODF 01
12/09/77		14:04	.67	.47	256	1549	CODF 14
12/09/77		14:09	4:53	.62	257	1550	CODF 1A
12/09/77		14:11	8:38	.28	258	1551	CODF 01
12/09/77		14:20	1:72	.35	259	1552	CODF 14
12/09/77		14:26	5:65	.55	260	1553	CODF 01
12/09/77		14:31	4:45	.32	261	1554	CODF 1A
12/09/77		14:35	3:68	.47	262	1555	CODF 14
12/09/77		14:37	1:53	.65	263	1556	CODF 15
12/09/77		14:47	9:35	.37	264	1557	CODF 01
12/09/77		14:48	.63	.28	265	1558	CODF 01
12/09/77		14:49	.72	.42	266	1559	CODF 02
12/09/77		14:55	5:58	.50	267	1560	CODF 15
12/09/77		14:57	1:50	.22	268	1561	CODF 01
12/09/77		14:59	1:78	.32	269	1562	CODF 1A
12/09/77		15:01	1:68	.27	270	1563	CODF 02
END OF SHIFT AT 15:07							
12/12/77	07:30	07:38	13.73	.53	271	1564	CODF 14

MODULE 4 = FU7E ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOULF FAILURE NUMFR	SYSTEM FAILURE NUMFR	FAILURE MODF
12/12/77	07:49	07:49	10.47	.4A	272	1565	C00F 17
12/12/77	07:51	07:51	1.52	.5A	273	1566	C00F 17
12/12/77	07:59	07:59	7.42	.5A	274	1567	C00F 01
12/12/77	08:01	08:01	1.42	1.4A	275	1568	C00F 15
12/12/77	08:03	08:03	.52	.52	276	1569	C00F 05
12/12/77	08:0A	08:0A	4.48	.75	277	1570	C00F 02
12/12/77	08:09	08:09	.25	.42	27A	1571	C00F 02
12/12/77	08:20	08:20	10.58	1.5A	279	1572	C00E 03
12/12/77	08:24	08:24	2.42	.57	280	1573	C00F 1A
12/12/77	08:2A	08:2A	3.43	.5A	281	1574	C00F 05
12/12/77	08:29	08:29	.42	.97	282	1575	C00F 02
12/12/77	08:31	08:31	1.03	.57	283	1576	C00F 02
12/12/77	08:34	08:34	2.43	.60	284	1577	C00F 02
12/12/77	08:3A	08:3A	3.40	.6A	285	1578	C00F 02
12/12/77	08:4A	08:4A	9.32	.87	286	1579	C00F 15
12/12/77	08:49	08:49	.13	.87	287	1580	C00F 02
12/12/77	09:04	09:04	14.13	.67	28A	1581	C00F 14
12/12/77	09:05	09:05	.33	1.03	289	1582	C00F 02
12/12/77	09:07	09:07	.97	2.02	290	1583	C00F 12
12/12/77	09:11	09:11	1.98	.92	291	1584	C00F 14
12/12/77	09:15	09:15	3.08	.57	292	1585	C00F 14
12/12/77	09:25	09:25	9.43	.3A	293	1586	C00F 01
12/12/77	10:12	10:12	4.62	.63	294	1587	C00F 15
12/12/77	10:14	10:14	1.37	.77	295	1587	C00F 07
12/12/77	10:16	10:16	1.23	.3A	296	158A	C00F 1A
12/12/77	10:17	10:17	.62	1.02	297	1590	C00F 15
12/12/77	10:20	10:20	1.98	.53	29A	1591	C00F 14
12/12/77	10:2A	10:2A	7.47	.37	299	1592	C00F 01
12/12/77	10:31	10:31	2.63	4.43	300	1593	C00F 12
12/12/77	10:36	10:36	.57	.75	301	1594	C00F 02
12/12/77	10:41	10:41	4.25	.73	302	1595	C00F 27
12/12/77	10:43	10:43	1.27	.93	303	1596	C00F 15
12/12/77	10:44	10:44	.07	.67	304	1597	C00F 01
12/12/77	10:46	10:46	1.33	.47	305	159A	C00F 1A
12/12/77	10:51	10:51	4.53	.83	306	1599	C00F 1A
12/12/77	10:5A	10:5A	6.17	1.82	307	1600	C00F 1A
12/12/77	11:01	11:01	1.18	1.07	30A	1601	C00F 12
12/12/77	11:03	11:03	.93	1.20	309	1602	C00F 02
12/12/77	11:06	11:06	1.80	.45	310	1603	C00F 01
12/12/77	11:13	11:13	6.55	.82	311	1604	C00F 15

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77		11:15	1:18	.50	312	1605	CODE 18
12/12/77		11:19	3:50	.52	313	1606	CODE 14
12/12/77		11:26	6:48	.70	314	1607	CODE 14
12/12/77		11:31	4:30	1.15	315	1608	CODE 15
12/12/77		11:42	9:85	.70	316	1609	CODE 02
12/12/77		11:43	.30	.42	317	1610	CODE 17
12/12/77		11:50	6:58	.80	318	1611	CODE 15
12/12/77		12:32	6:20	1.20	319	1612	CODE 01
12/12/77		12:35	1:80	1.63	320	1613	CODE 05
12/12/77		12:45	8:37	.45	321	1614	CODE 02
12/12/77		12:50	4:55	.72	322	1615	CODE 15
12/12/77		12:51	.28	2.60	323	1616	CODE 17
12/12/77		12:55	1:40	.80	324	1617	CODE 14
12/12/77		12:58	2:20	1.03	325	1618	CODE 17
12/12/77		13:00	.97	.37	326	1619	CODE 12
12/12/77		13:05	4:63	.57	327	1620	CODE 15
12/12/77		13:09	3:43	.53	328	1621	CODE 02
12/12/77		13:12	2:47	.98	329	1622	CODE 15
12/12/77		13:17	4:02	1.03	330	1623	CODE 02
12/12/77		13:24	5:97	.42	331	1624	CODE 01
12/12/77		13:51	11:58	.43	332	1625	CODE 02
12/12/77		14:00	8:57	.37	333	1626	CODE 14
12/12/77		14:06	5:63	.72	334	1627	CODE 12
12/12/77		14:08	1:28	1.20	335	1628	CODE 15
12/12/77		14:12	2:80	.45	336	1629	CODE 03
12/12/77		14:15	2:55	.87	337	1630	CODE 15
12/12/77		14:17	1:13	.43	338	1631	CODE 01
12/12/77		14:21	3:57	.55	339	1632	CODE 14
12/12/77		14:31	9:45	.70	340	1633	CODE 15
12/12/77		14:34	2:30	.65	341	1634	CODE 02
12/12/77		14:41	6:35	.63	342	1635	CODE 03
12/12/77		14:44	2:37	.53	343	1636	CODE 02
12/12/77		14:46	1:47	.53	344	1637	CODE 02
12/12/77		14:55	8:47	.43	345	1638	CODE 02
12/12/77		15:01	5:57	.72	346	1639	CODE 03
END OF SHIFT AT 15:15							
12/13/77	07:30						
12/13/77		07:30	13:28	1.37	347	1640	CODE 02
12/13/77		07:33	1:63	3.32	348	1641	CODE 02

MODUL 4 = FU7F ASSEMBLY STATION 7W (CONT'D) STATION 304 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77	07:37		.68	.32	349	1642	COOF 02
12/13/77	08:16		38.68	.27	350	1643	COOF 01
12/13/77	08:22		5.73	.50	351	1644	COOF 05
12/13/77	08:36		13.50	.52	352	1645	COOF 02
12/13/77	08:42		5.48	1.63	353	1646	COOF 12
12/13/77	08:49		5.37	1.32	354	1647	COOF 12
12/13/77	08:53		2.68	1.12	355	1648	COOF 15
12/13/77	09:14		19.88	.50	356	1649	COOF 1A
12/13/77	09:15		.50	.40	357	1650	COOF 01
12/13/77	09:16		.60	.33	358	1651	COOF 01
12/13/77	09:17		.67	.6A	359	1652	COOF 03
12/13/77	09:19		1.32	.67	360	1653	COOF 01
12/13/77	09:22		2.33	.9A	361	1654	COOF 12
12/13/77	10:02		23.02	.42	362	1655	COOF 01
12/13/77	10:08		5.58	.53	363	1656	COOF 02
12/13/77	10:09		.47	.53	364	1657	COOF 01
12/13/77	10:14		4.47	.40	365	1658	COOF 01
12/13/77	10:20		5.60	.50	366	1659	COOF 01
12/13/77	10:23		2.50	.53	367	1660	COOF 01
12/13/77	10:24		.47	1.25	368	1661	COOF 12
12/13/77	10:30		4.75	.65	369	1662	COOF 01
12/13/77	10:35		4.35	.42	370	1663	COOF 02
12/13/77	10:40		4.58	.52	371	1664	COOF 02
12/13/77	10:42		1.48	.32	372	1665	COOF 02
12/13/77	10:43		.68	4.60	373	1666	COOF 12
12/13/77	10:49		1.40	.77	374	1667	COOF 01
12/13/77	10:50		.23	.6A	375	1668	COOF 02
12/13/77	10:54		3.32	.43	376	1669	COOF 01
12/13/77	10:55		.57	.33	377	1670	COOF 10
12/13/77	10:56		.67	3.65	378	1671	COOF 03
12/13/77	11:12		.58	1.42	379	1672	COOF 02
12/13/77	11:14		.58	.1A	380	1673	COOF 1A
12/13/77	11:25		10.82	.4A	381	1674	COOF 01
12/13/77	11:35		9.52	.63	382	1675	COOF 02
12/13/77	11:37		1.37	.35	383	1676	COOF 02
12/13/77	11:45		7.65	.42	384	1677	COOF 01
12/13/77	11:46		.58	.85	385	1678	COOF 02
12/13/77	12:45		2A.15	.67	386	1679	COOF 02
12/13/77	12:4A		2.33	.82	387	1680	COOF 01
12/13/77	12:49		.18	.63	38A	1681	COOF 05

MODULF 4 = FU7E ASSEMBLY STATION 7W (CONTD) STATION 304 AT LSAAP

OATF	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/13/77		12:54	4.37	.53	389	1682	COOF 02
12/13/77		12:58	3.47	1.42	390	1683	COOF 02
12/13/77		13:09	9.58	.43	391	1684	COOF 01
12/13/77		13:14	4.57	.65	392	1685	COOF 02
12/13/77		13:16	1.35	.47	393	1686	COOF 02
12/13/77		13:18	1.53	1.07	394	1687	COOF 02
12/13/77		13:21	1.93	.98	395	1688	COOF 02
12/13/77		13:22	.02	.48	396	1689	COOF 02
12/13/77		13:26	3.52	.67	397	1690	COOF 02
12/13/77		13:27	.33	.62	398	1691	COOF 02
12/13/77		13:28	.38	.37	399	1692	COOF 01
12/13/77		13:49	5.63	.63	400	1693	COOF 02
12/13/77		13:51	1.37	.82	401	1694	COOF 01
12/13/77		13:56	4.18	.40	402	1695	COOF 01
12/13/77		14:03	6.60	1.55	403	1696	COOF 01
12/13/77		14:05	.45	.98	404	1697	COOF 01
12/13/77		14:06	.02	1.18	405	1698	COOF 18
12/13/77		14:11	3.82	.42	406	1699	COOF 02
12/13/77		14:13	1.58	.33	407	1700	COOF 01
12/13/77		14:14	.67	1.27	408	1701	COOF 12
12/13/77		14:16	.73	.37	409	1702	COOF 01
12/13/77		14:17	.63	.97	410	1703	COOF 01
12/13/77		14:18	.03	2.33	411	1704	COOF 12
12/13/77		14:21	.67	.40	412	1705	COOF 01
12/13/77		14:25	3.60	.33	413	1706	COOF 18
12/13/77		14:26	.67	.72	414	1707	COOF 14
12/13/77		14:31	4.28	.53	415	1708	COOF 02
12/13/77		14:41	9.47	.78	416	1709	COOF 02
12/13/77		14:48	6.22	.63	417	1710	COOF 02
12/13/77		14:49	.37	.73	418	1711	COOF 01
12/13/77		14:53	3.27	.53	419	1712	COOF 01
12/13/77		14:55	1.47	.33	420	1713	COOF 01
12/13/77		14:56	.67	.50	421	1714	COOF 02
12/13/77		14:58	1.50	.42	422	1715	COOF 01
12/13/77		15:01	2.58	.50	423	1716	COOF 02
12/13/77		15:05	3.50	.58	424	1717	COOF 18

END OF SHIFT AT 15:11

MODULF 5 = FIJ7E ASSEMBLY STATION 8E

STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MONF
12/05/77	07:30						
12/05/77		07:41	11.00	.43	1	1718	CODF 1A
12/05/77		07:43	1.57	1.00	2	1719	CODF 1P
12/05/77		07:50	6.00	.58	3	1720	CODF 24
12/05/77		07:54	3.42	10.00	4	1721	CODF 21
12/05/77		08:10	6.00	4.58	5	1722	CODF 03
12/05/77		08:38	23.42	.6A	6	1723	CODF 1A
12/05/77		08:40	1.32	.93	7	1724	CODF 02
12/05/77		08:50	9.07	1.00	8	1725	CODF 24
12/05/77		08:56	5.00	.6A	9	1726	CODF 1A
12/05/77		09:17	20.32	.40	10	1727	CODF 1A
12/05/77		09:19	1.60	.5A	11	1728	CODF 01
12/05/77		09:22	2.42	.2A	12	1729	CODF 24
12/05/77		09:49	8.72	1.10	13	1730	CODF 12
12/05/77		09:53	2.90	.3A	14	1731	CODF 1A
12/05/77		09:55	1.62	.50	15	1732	CODF 1A
12/05/77		10:12	16.50	.5A	16	1733	CODF 24
12/05/77		10:14	1.42	.6A	17	1734	CODF 12
12/05/77		10:20	5.32	A.43	18	1735	CODF 16
12/05/77		10:33	4.57	.53	19	1736	CODF 02
12/05/77		10:36	2.47	.5A	20	1737	CODF 02
12/05/77		11:39	2.13	.80	21	1738	CODF 12
12/05/77		11:42	2.20	.87	22	1739	CODF 12
12/05/77		12:33	14.13	.50	23	1740	CODF 03
12/05/77		12:39	5.50	1.00	24	1741	CODF 12
12/05/77		12:43	3.00	1.6A	25	1742	CODF 12
12/05/77		13:00	15.32	2.20	26	1743	CODF 12
12/05/77		13:06	3.80	.5A	27	1744	CODF 1A
12/05/77		13:11	4.42	1.00	28	1745	CODF 12
12/05/77		13:17	5.00	1.63	29	1746	CODF 1A
12/05/77		13:22	3.37	.40	30	1747	CODF 1A
12/05/77		13:53	12.60	1.00	31	1748	CODF 12
12/05/77		13:58	4.00	.33	32	1749	CODF 1A
12/05/77		14:00	1.67	.2A	33	1750	CODF 17
12/05/77		14:09	8.72	2.2A	34	1751	CODF 12
12/05/77		14:13	1.72	1.40	35	1752	CODF 12
12/05/77		14:47	32.60	.50	36	1753	CODF 12
12/05/77		14:48	.50	.43	37	1754	CODF 24
12/05/77		14:53	4.57	.33	38	1755	CODF 01
12/05/77		15:00	6.67	.2A	39	1756	CODF 01

MODULE 5 = FUTURE ASSEMBLY STATION 8E (CDNTD) STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
12/05/77	15:04	3:72	1:00	40	1757		CONF 01	
12/05/77	15:06	1:00	.43	41	1758		CONF 12	
12/05/77			END OF SHIFT AT 15:15					
12/07/77	07:47							
12/07/77	07:48	9:57	3:5A	42	1759		CONF 12	
12/07/77	07:55	3:42	.03	43	1760		CONF 12	
12/07/77	08:00	4:97	.6A	44	1761		CONF 02	
12/07/77	08:03	2:32	4:00	45	1762		CONF 12	
12/07/77	08:07	0:00	4:00	46	1763		CONF 02	
12/07/77	08:11	0:00	1:5A	47	1764		CONF 12	
12/07/77	08:13	.42	1:2A	48	1765		CONF 12	
12/07/77	08:30	5:52	.6A	49	1766		CONF 24	
12/07/77	08:32	1:32	.40	50	1767		CONF 24	
12/07/77	08:34	1:60	7:2A	51	1768		CONF 12	
12/07/77	08:45	3:72	1:20	52	1769		CONF 18	
12/07/77	08:47	.80	1:6A	53	1770		CONF 02	
12/07/77	08:51	2:32	.80	54	1771		CONF 24	
12/07/77	08:53	1:20	1:00	55	1772		CONF 12	
12/07/77	08:55	1:00	.75	56	1773		CONF 24	
12/07/77	09:00	4:25	5:2A	57	1774		CONF 12	
12/07/77	09:06	.72	.5A	58	1775		CONF 01	
12/07/77	09:17	10:42	.40	59	1776		CONF 19	
12/07/77	09:52	16:60	2:50	60	1777		CONF 12	
12/07/77	10:09	4:40	.63	61	1778		CONF 25	
12/07/77	10:12	2:37	.25	62	1779		CONF 24	
12/07/77	10:14	1:75	1:27	63	1780		CONF 12	
12/07/77	10:19	3:73	2:00	64	1781		CONF 24	
12/07/77	10:24	3:00	.40	65	1782		CONF 01	
12/07/77	10:25	.60	3:6A	66	1783		CONF 12	
12/07/77	10:29	.32	.80	67	1784		CONF 02	
12/07/77	10:31	1:20	1:2A	68	1785		CONF 12	
12/07/77	10:33	.72	1:10	69	1786		CONF 24	
12/07/77	10:44	9:90	.63	70	1787		CONF 03	
12/07/77	10:48	3:37	.33	71	1788		CONF 01	
12/07/77	10:50	1:67	1:00	72	1789		CONF 24	
12/07/77	10:52	3:00	.31	73	1790		CONF 24	
12/07/77	10:56	3:67	.5A	74	1791		CONF 12	
12/07/77	11:01	4:42	1:00	75	1792		CONF 03	
12/07/77	11:04	2:00	2:53	76	1793		CONF 12	

MODULE 5 = FU7F ASSEMBLY STATION RE (CONTD) STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL F NUMBER	F AILURE NUMBER	SYSTEM FAILURE NUMBR	F AILURE MODF
12/07/77		11:26	18.42	.33	77		1794	CODE 24
12/07/77		11:29	2.67	.6A	7A		1795	CODE 24
12/07/77		11:32	2.32	.93	79		1796	CODE 03
12/07/77		11:34	1.07	1.40	80		1797	CODE 24
12/07/77		11:37	1.60	1.5A	81		179A	CODE 12
12/07/77		11:39	.42	1.83	82		1799	CODE 12
12/07/77		11:41	.17	1.50	83		1800	CODE 12
12/07/77		11:44	1.50	.43	84		1801	CODE 01
12/07/77		12:36	15.57	.53	85		1802	CODE 12
12/07/77		12:39	2.47	1.8A	86		1803	CODE 12
12/07/77		12:41	.12	.2A	87		1804	CODE 24
12/07/77		12:55	13.72	.58	8A		1805	CODE 14
12/07/77		12:58	2.42	.27	89		1806	CODE 01
12/07/77		13:00	1.73	.37	90		1807	CODE 1A
12/07/77		13:02	1.67	1.00	91		180A	CODE 12
12/07/77		13:04	1.00	.42	92		1809	CODE 1A
12/07/77		13:08	3.58	.40	93		1810	CODE 12
12/07/77		13:10	1.60	.63	94		1811	CODE 12
12/07/77		13:13	2.37	.50	95		1812	CODE 12
12/07/77		13:17	3.50	.40	96		1813	CODE 14
12/07/77		13:52	16.60	1.00	97		1814	CODE 14
12/07/77		13:59	6.00	.8A	9A		1815	CODE 12
12/07/77		14:07	7.12	.80	99		1816	CODE 1A
12/07/77		14:19	11.20	.52	100		1817	CODE 1A
12/07/77		14:24	4.48	.75	101		181A	CODE 1A
12/07/77		14:28	3.25	.50	102		1819	CODE 02
12/07/77		14:30	1.50	.33	103		1820	CODE 01
12/07/77		14:32	1.67	.47	104		1821	CODE 02
12/07/77		14:34	1.57	.63	105		1822	CODE 1A
12/07/77		14:3A	3.37	.2A	106		1823	CODE 01
12/07/77		14:40	1.72	.63	107		1824	CODE 1A
12/07/77		14:42	1.37	.5A	108		1825	CODE 1A
12/07/77		15:03	1A.13	.50	109		1A26	CODE 1A
END OF SHIFT AT 15:15								
12/09/77	07:30							
12/09/77		07:31	12.50	1.05	110		1827	CODE 03
12/09/77		07:33	.95	3.80	111		182A	CODE 11
12/09/77		0A:2A	4.83	.3A	112		1829	CODE 24
12/09/77		0A:31	2.62	4.10	113		1A30	CODE 11

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77	08:36		.90	1.10	114	1831	CONF 12
12/09/77	08:38		.90	1.28	115	1832	CONF 12
12/09/77	08:40		.72	9.00	116	1833	CONF 11
12/09/77	08:51		2.00	.07	117	1834	CONF 24
12/09/77	08:53		1.93	3.88	118	1835	CONF 24
12/09/77	08:59		2.12	.63	119	1836	CONF 12
12/09/77	09:01		1.37	4.00	120	1837	CONF 12
12/09/77	09:06		1.00	1.05	121	1838	CONF 12
12/09/77	09:09		1.95	1.63	122	1839	CONF 18
12/09/77	09:15		4.37	.67	123	1840	CONF 18
12/09/77	09:17		1.33	.58	124	1841	CONF 24
12/09/77	09:19		1.42	.33	125	1842	CONF 24
12/09/77	09:52		17.67	.33	126	1843	CONF 12
12/09/77	09:54		1.67	1.00	127	1844	CONF 25
12/09/77	09:57		2.00	.37	128	1845	CONF 14
12/09/77	09:59		1.63	.28	129	1846	CONF 01
12/09/77	10:07		7.72	.40	130	1847	CONF 12
12/09/77	10:09		1.60	.28	131	1848	CONF 01
12/09/77	10:12		2.72	.88	132	1849	CONF 25
12/09/77	10:16		3.12	.50	133	1850	CONF 18
12/09/77	10:19		2.50	.58	134	1851	CONF 18
12/09/77	10:21		1.42	7.43	135	1852	CONF 20
12/09/77	10:37		8.57	7.00	136	1853	CONF 20
12/09/77	10:47		3.00	7.28	137	1854	CONF 20
12/09/77	10:56		1.72	.42	138	1855	CONF 01
12/09/77	10:58		1.58	2.22	139	1856	CONF 20
12/09/77	11:21		.78	2.80	140	1857	CONF 20
12/09/77	14:02		.20	5.00	141	1858	CONF 20
12/09/77	14:09		2.00	.58	142	1859	CONF 24
12/09/77	14:11		1.42	.80	143	1860	CONF 1A
12/09/77	14:13		1.20	2.20	144	1861	CONF 20
12/09/77	14:16		.80	1.20	145	1862	CONF 02
12/09/77	14:18		.80	.63	146	1863	CONF 12
12/09/77	14:20		1.37	.58	147	1864	CONF 1A
12/09/77	14:22		1.42	.80	148	1865	CONF 20
12/09/77	14:23		.20	5.83	149	1866	CONF 20
12/09/77	14:29		.17	1.28	150	1867	CONF 14
12/09/77	14:31		.72	6.25	151	1868	CONF 20
12/09/77	14:38		.75	.68	152	1869	CONF 24
12/09/77	14:40		1.32	1.10	153	1870	CONF 12

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77		14:46	4.90	1.07	154	1871	CODF 1A
12/09/77		14:50	2.93	.33	155	1872	CODF 1A
12/09/77							
12/12/77	07:30						
12/12/77		07:43	15.67	.75	156	1873	CODF 14
12/12/77		07:46	2.25	1.20	157	1874	CODF 12
12/12/77		07:51	3.80	.40	15A	1875	CODF 1A
12/12/77		07:58	6.60	.52	159	1876	CODF 11
12/12/77		08:00	1.48	.43	160	1877	CODF 01
12/12/77		08:02	1.57	.42	161	187A	CODF 1A
12/12/77		08:04	1.58	.5A	162	1879	CODF 02
12/12/77		08:06	1.42	1.2A	163	18A0	CODF 12
12/12/77		08:13	5.72	.50	164	18A1	CODF 14
12/12/77		08:15	1.50	2.93	165	18A2	CODF 24
12/12/77		08:20	2.07	.95	166	18A3	CODF 14
12/12/77		08:23	2.05	.72	167	18A4	CODF 1A
12/12/77		08:27	3.28	.63	16A	18A5	CODF 12
12/12/77		08:29	1.37	.40	169	18A6	CODF 11
12/12/77		08:31	1.60	.8A	170	18A7	CODF 14
12/12/77		08:35	3.12	.57	171	18A8	CODF 1A
12/12/77		08:37	1.43	.30	172	18A9	CODF 01
12/12/77		08:39	1.70	7.00	173	1890	CODF 04
12/12/77		08:47	1.00	.42	174	1891	CODF 1A
12/12/77		08:49	1.58	.53	175	1892	STOP FOR PRODUCTION
12/12/77		08:52	2.47	1.05	176	1A93	CODF 12
12/12/77		08:55	1.95	.57	177	1A94	CODF 12
12/12/77		08:57	1.43	1.20	17A	1895	CODF 12
12/12/77		08:59	.80	3.05	179	1896	CODF 03
12/12/77		09:03	.95	3.53	180	1A97	CODF 12
12/12/77		09:09	2.47	1.00	1A1	1A9A	CODF 25
12/12/77		09:20	10.00	.93	182	1899	CODF 12
12/12/77		10:20	14.07	6.2A	183	1900	CODF 12
12/12/77		10:2A	1.72	.92	184	1901	CODF 12
12/12/77		10:30	1.08	.5A	185	1902	CODF 12
12/12/77		10:33	2.42	1.2A	186	1903	CODF 12
12/12/77		10:40	5.72	.8A	187	1904	CODF 12
12/12/77		10:45	4.12	.60	18A	1905	CODF 11
12/12/77		10:4A	2.40	1.2A	189	1906	CODF 12
12/12/77		10:52	2.72	.62	190	1907	CODF 14

MODULE 5 = FU7F ASSEMBLY STATION RE (CONTD) STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/12/77		11:11	3.10	.62	191	190A	COFF 24
12/12/77		11:13	1.38	.80	192	1909	COFF 12
12/12/77		11:15	1.20	.93	193	1910	COFF 12
12/12/77		11:20	4.07	1.80	194	1911	STOP FOR PRODUCTION
12/12/77		11:27	5.20	.52	195	1912	COFF 12
12/12/77		11:29	1.48	.75	196	1913	COFF 11
12/12/77		13:28	3.25	.40	197	1914	COFF 1A
12/12/77		14:00	6.60	5.20	19A	1915	COFF 12
12/12/77		14:07	1.80	.75	199	1916	COFF 05
12/12/77		14:14	6.25	1.2A	200	1917	COFF 1A
12/12/77		14:17	1.72	4.25	201	191A	COFF 25
12/12/77		14:26	4.75	.33	202	1919	COFF 1A
12/12/77		14:30	3.67	.40	203	1920	COFF 02
12/12/77		14:40	9.60	.55	204	1921	COFF 12
12/12/77		14:42	1.45	.3A	205	1922	COFF 02
12/12/77		14:54	11.62	.2A	206	1923	COFF 01
12/12/77		15:10	15.72	.43	207	1924	COFF 12
END OF SHIFT AT 15:15							
12/13/77	07:30	07:38	12.57	.40	20A	1925	COFF 1A
12/13/77		07:41	2.60	.6A	209	1926	COFF 07
12/13/77		07:43	1.32	1.10	210	1927	COFF 04
12/13/77		07:48	3.90	.6A	211	192A	COFF 12
12/13/77		07:55	6.32	1.10	212	1929	COFF 12
12/13/77		08:02	5.90	.33	213	1930	COFF 12
12/13/77		0A:06	3.67	.50	214	1931	CODE 24
12/13/77		0A:15	8.50	.5A	215	1932	COFF 18
12/13/77		08:20	4.42	.45	216	1933	COFF 14
12/13/77		0A:23	2.55	.47	217	1934	COFF 24
12/13/77		0A:26	2.53	.40	21A	1935	COFF 02
12/13/77		08:32	5.60	.33	219	1936	COFF 24
12/13/77		0A:34	1.67	1.13	220	1937	COFF 12
12/13/77		08:38	2.87	.42	221	193A	COFF 14
12/13/77		0A:46	7.58	.93	222	1939	COFF 03
12/13/77		0A:54	7.07	.93	223	1940	COFF 24
12/13/77		09:01	5.42	.63	224	1941	COFF 12
12/13/77		09:03	1.37	.5A	225	1942	COFF 1A
12/13/77		09:05	1.42	.33	226	1943	COFF 12
12/13/77		09:11	5.67	.40	227	1944	COFF 11

MODULE 5 = FUZF ASSEMBLY STATION 8E (CONTD) STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		09:16	4.60	1.00	228	1945	CODEF 12
12/13/77		09:53	16.00	1.40	229	1946	CODEF 02
12/13/77		09:56	1.60	1.05	230	1947	CODEF 12
12/13/77		10:01	3.95	.6A	231	1948	CODEF 1A
12/13/77		10:05	3.32	.42	232	1949	CODEF 24
12/13/77		10:11	5.58	1.12	233	1950	CODEF 03
12/13/77		10:13	.88	.47	234	1951	CODEF 14
12/13/77		10:18	4.53	.50	235	1952	CODEF 12
12/13/77		10:20	1.50	.43	236	1953	CODEF 02
12/13/77		10:22	1.57	1.40	237	1954	CODEF 07
12/13/77		10:25	1.60	.62	238	1955	CODEF 12
12/13/77		10:28	2.38	.50	239	1956	CODEF 02
12/13/77		10:32	3.50	.53	240	1957	CODEF 06
12/13/77		10:36	3.47	.5A	241	1958	CODEF 11
12/13/77		10:40	3.42	.40	242	1959	CODEF 02
12/13/77		10:46	5.60	1.00	243	1960	CODEF 12
12/13/77		10:50	3.00	.42	244	1961	CODEF 12
12/13/77		10:54	3.58	1.43	245	1962	CODEF 20
12/13/77		10:57	1.57	1.20	246	1963	CODEF 20
12/13/77		11:10	5.80	.50	247	1964	CODEF 02
12/13/77		11:16	5.50	1.80	248	1965	CODEF 25
12/13/77		11:30	12.20	.40	249	1966	CODEF 02
12/13/77		11:38	7.60	.33	250	1967	CODEF 12
12/13/77		11:40	1.67	.75	251	1968	CODEF 1A
12/13/77		11:42	1.25	.80	252	1969	CODEF 12
12/13/77		11:44	1.20	1.00	253	1970	CODEF 12
12/13/77		11:46	1.00	2.50	254	1971	CODEF 02
12/13/77		12:34	7.50	1.00	255	1972	CODEF 02
12/13/77		12:36	1.00	.80	256	1973	CODEF 02
12/13/77		12:39	2.20	1.05	257	1974	CODEF 02
12/13/77		12:42	1.95	2.20	258	1975	CODEF 02
12/13/77		12:48	3.80	.40	259	1976	CODEF 24
12/13/77		12:51	2.60	.33	260	1977	CODEF 01
12/13/77		12:54	2.67	.8A	261	1978	CODEF 25
12/13/77		13:01	6.12	.43	262	1979	CODEF 1A
12/13/77		13:04	2.57	.53	263	1980	CODEF 12
12/13/77		13:06	1.47	.40	264	1981	CODEF 1A
12/13/77		13:08	1.60	.53	265	1982	CODEF 1A
12/13/77		13:10	1.47	.75	266	1983	CODEF 1A
12/13/77		13:14	3.25	.50	267	1984	CODEF 01

MODULE 5 = FUZF ASSEMBLY STATION RE (CONTD) STATION 305 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/13/77		13:20	5.50	.43	268	1985	COFF 03
12/13/77		14:00	24.57	.40	269	1986	COFF 01
12/13/77		14:02	1.60	.80	270	1987	COFF 12
12/13/77		14:04	1.20	.42	271	1988	COFF 12
12/13/77		14:07	2.58	.80	272	1989	COFF 18
12/13/77		14:13	5.20	.43	273	1990	COFF 24
12/13/77		14:18	4.57	6.00	274	1991	COFF 20
12/13/77		14:28	4.00	2.58	275	1992	COFF 12
12/13/77		14:44	13.42	.63	276	1993	COFF 12
12/13/77		14:46	1.37	.65	277	1994	COFF 18
12/13/77		14:48	1.35	.53	278	1995	COFF 12
12/13/77		14:59	10.47	.63	279	1996	COFF 12

END OF SHIFT AT 15:45

MODULE 6 = FU7F ASSEMBLY STATION RW STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMRFR	FAILURE MODE
12/05/77	07:27	07:36	0.00	1.40	1	1997	CODF 18
12/05/77		07:38	.60	12.10	2	1998	CODF 16
12/05/77		08:12	1.90	2.43	3	1999	CODF 12
12/05/77		08:54	23.18	.70	4	2000	CODF 02
12/05/77		08:56	1.30	1.12	5	2001	CODF 25
12/05/77		09:00	2.88	.27	6	2002	CODF 02
12/05/77		09:02	1.73	.17	7	2003	CODF 17
12/05/77		09:05	2.83	.63	8	2004	CODF 12
12/05/77		09:07	1.37	.37	9	2005	CODF 01
12/05/77		09:11	3.63	.52	10	2006	CODF 14
12/05/77		09:13	1.48	1.33	11	2007	CODF 07
12/05/77		09:20	5.67	.33	12	2008	CODF 17
12/05/77		09:21	.67	.33	13	2009	CODF 17
12/05/77		09:22	.67	1.12	14	2010	CODF 25
12/05/77		09:26	2.88	.30	15	2011	CODF 14
12/05/77		09:48	4.70	.50	16	2012	CODF 05
12/05/77		09:55	6.50	.32	17	2013	CODF 02
12/05/77		09:59	3.68	.28	18	2014	CODF 02
12/05/77		10:07	7.72	.25	19	2015	CODF 02
12/05/77		10:12	4.75	.57	20	2016	CODF 02
12/05/77		10:25	12.43	.48	21	2017	CODF 02
12/05/77		10:26	.52	.47	22	2018	CODF 02
12/05/77		10:30	3.53	.53	23	2019	CODF 05
12/05/77		10:37	6.47	.53	24	2020	CODF 14
12/05/77		10:39	1.47	.27	25	2021	CODF 02
12/05/77		10:44	4.73	.43	26	2022	CODF 02
12/05/77		10:59	14.57	.92	27	2023	CODF 02
12/05/77		11:05	5.08	.75	28	2024	CODF 02
12/05/77		11:06	.25	.25	29	2025	CODF 02
12/05/77		11:09	2.75	.32	30	2026	CODF 06
12/05/77		11:10	.68	1.02	31	2027	CODF 02
12/05/77		11:12	.98	.83	32	2028	CODF 02
12/05/77		11:13	.17	.47	33	2029	CODF 14
12/05/77		11:21	7.53	.33	34	2030	CODF 18
12/05/77		11:25	3.67	1.43	35	2031	CODF 12
12/05/77		11:27	.57	.77	36	2032	CODF 02
12/05/77		11:37	9.23	.13	37	2033	CODF 06
12/05/77		11:40	2.87	.47	38	2034	CODF 01
12/05/77		11:49	8.53	.72	39	2035	CODF 14

MODULE 6 = FUZE ASSEMBLY STATION 8W (CONTD) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/05/77	11:50		.28	.27	40	2036	CODF 05
12/05/77	11:51		.73	.51	41	2037	CODF 02
12/05/77	12:41		12:47	.31	42	2038	CODF 02
12/05/77	12:42		.67	.40	43	2039	CODF 05
12/05/77	12:43		.60	.52	44	2040	CODF 02
12/05/77	12:46		2:48	.53	45	2041	CODF 24
12/05/77	12:49		2:47	.47	46	2042	CODF 14
12/05/77	12:50		.53	.93	47	2043	CODF 01
12/05/77	12:56		5:07	2:27	48	2044	CODF 17
12/05/77	13:00		1:73	.80	49	2045	CODF 18
12/05/77	13:01		.20	1:02	50	2046	CODF 02
12/05/77	13:13		1:52	.83	51	2047	CODF 02
12/05/77	13:14		.17	.50	52	2048	CODF 14
12/05/77	13:20		5:50	.38	53	2049	CODF 02
12/05/77	13:21		.62	.37	54	2050	CODF 05
12/05/77	13:22		.63	.73	55	2051	CODF 02
12/05/77	13:25		2:27	.63	56	2052	CODF 14
12/05/77	13:26		.37	.28	57	2053	CODF 14
12/05/77	13:49		5:72	5:42	58	2054	CODF 16
12/05/77	13:59		4:58	.63	59	2055	CODF 02
12/05/77	14:01		1:37	1:75	60	2056	CODF 17
12/05/77	14:21		18:25	.62	61	2057	CODF 14
12/05/77	14:25		3:38	9:38	62	2058	CODF 16
12/05/77	14:35		.62	2:12	63	2059	CODF 16
12/05/77	14:38		.88	.80	64	2060	CODF 16
12/05/77	14:39		.20	.58	65	2061	CODF 02
12/05/77	14:42		2:42	.80	66	2062	CODF 05
12/05/77	14:43		.20	1:07	67	2063	CODF 12
12/05/77	14:52		3:53	1:88	68	2064	CODF 16
12/05/77	14:56		2:12	.50	69	2065	CODF 02
12/05/77	14:59		2:50	1:07	70	2066	CODF 16
12/05/77	15:01		.93	.63	71	2067	CODF 02
12/05/77	15:06		4:37	5:75	72	2068	CODF 15
END OF SHIFT AT 15:15							

12/06/77	07:30		3:25	6:32	73	2069	CODF 15
12/06/77	07:38		1:68	.23	74	2070	CODF 02
12/06/77	07:39		.77	.53	75	2071	CODF 16
12/06/77	07:42		2:47	4:58	76	2072	CODF 15

MODULE 6 = FU7F ASSEMBLY STATION 8W (CONT'D) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77	07:47		.42	.6A	77	2073	CODF 07
12/06/77	07:48		.32	.40	78	2074	CODF 02
12/06/77	07:50		1.60	.47	79	2075	CODF 02
12/06/77	08:01		10.53	.52	80	2076	CODF 14
12/06/77	08:02		.48	.83	81	2077	CODF 05
12/06/77	08:03		.17	.47	82	2078	CODF 06
12/06/77	08:07		3.53	.57	83	2079	CODF 14
12/06/77	08:12		4.43	.50	84	2080	CODF 02
12/06/77	08:15		2.50	.37	85	2081	CODF 17
12/06/77	08:16		.63	.23	86	2082	CODF 02
12/06/77	08:21		4.77	.6A	87	2083	CODF 17
12/06/77	08:32		10.32	.1A	88	2084	CODF 17
12/06/77	08:41		8.82	.47	89	2085	CODF 17
12/06/77	08:46		4.53	.52	90	2086	CODF 02
12/06/77	08:49		2.48	.32	91	2087	CODF 07
12/06/77	08:57		7.68	.62	92	2088	CODF 18
12/06/77	09:00		2.3A	.50	93	2089	CODF 02
12/06/77	09:06		5.50	.62	94	2090	CODF 14
12/06/77	09:07		.38	.45	95	2091	CODF 02
12/06/77	09:13		5.55	.87	96	2092	CODF 15
12/06/77	09:18		4.13	2.82	97	2093	CODF 23
12/06/77	09:21		.18	.30	98	2094	CODF 1A
12/06/77	09:22		.70	.83	99	2095	CODF 02
12/06/77	09:24		1.17	.30	100	2096	CODF 14
12/06/77	09:25		.70	.93	101	2097	CODF 02
12/06/77	09:27		1.07	.92	102	2098	CODF 02
12/06/77	09:51		6.08	3.40	103	2099	CODF 25
12/06/77	09:59		4.60	1.43	104	2100	CODF 12
12/06/77	10:03		2.57	.82	105	2101	CODF 1A
12/06/77	10:04		.18	1.05	106	2102	CODF 12
12/06/77	10:12		6.95	.45	107	2103	CODF 02
12/06/77	10:28		15.55	1.00	108	2104	CODF 1A
12/06/77	10:32		3.00	.4A	109	2105	CODF 14
12/06/77	10:33		.52	.22	110	2106	CODF 02
12/06/77	10:40		6.78	.57	111	2107	CODF 02
12/06/77	10:41		.43	.25	112	2108	CODF 02
12/06/77	10:44		2.75	.62	113	2109	CODF 02
12/06/77	10:45		.38	.25	114	2110	CODF 17
12/06/77	10:49		3.75	.40	115	2111	CODF 17
12/06/77	10:59		9.60	.4A	116	2112	CODF 17

MODULE 6 = FUZF ASSEMBLY STATION 8W (CONTD) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		11:03	3:52	.42	117	2113	CODF 02
12/06/77		11:14	10:58	.57	118	2114	CODF 14
12/06/77		11:15	.43	.52	119	2115	CODF 14
12/06/77		11:16	.48	.42	120	2116	CODF 02
12/06/77		11:35	18:58	.63	121	2117	CODF 02
12/06/77		11:39	3:37	.53	122	2118	CODF 02
12/06/77		11:47	7:47	.52	123	2119	CODF 1A
12/06/77		12:32	9:48	.63	124	2120	CODF 14
12/06/77		12:35	2:37	.67	125	2121	CODF 07
12/06/77		12:36	.33	1:57	126	2122	CODF 02
12/06/77		12:47	9:43	.92	127	2123	CODF 01
12/06/77		12:51	3:08	1:07	128	2124	CODF 02
12/06/77		13:00	7:93	.72	129	2125	CODF 01
12/06/77		13:04	3:28	1:32	130	2126	CODF 12
12/06/77		13:06	.68	3:08	131	2127	CODF 02
12/06/77		13:10	.92	.40	132	2128	CODF 02
12/06/77		13:25	14:60	.60	133	2129	CODF 02
12/06/77		13:49	6:40	.55	134	2130	CODF 1A
12/06/77		13:55	5:45	.25	135	2131	CODF 17
12/06/77		13:56	.75	.50	136	2132	CODF 17
12/06/77		13:57	.50	.37	137	2133	CODF 17
12/06/77		14:00	2:63	.87	138	2134	CODF 02
12/06/77		14:07	6:13	.58	139	2135	CODF 14
12/06/77		14:10	2:42	.63	140	2136	CODF 1A
12/06/77		14:14	3:37	.68	141	2137	CODF 14
12/06/77		14:17	2:32	.87	142	2138	CODF 14
12/06/77		14:25	7:13	.37	143	2139	CODF 01
12/06/77		14:26	.63	1:43	144	2140	CODF 12
12/06/77		14:28	.57	.38	145	2141	CODF 02
12/06/77		14:31	2:62	.88	146	2142	CODF 29
12/06/77		14:37	5:12	.43	147	2143	CODF 02
12/06/77		14:41	3:57	.53	148	2144	CODF 17
12/06/77		14:45	3:47	.63	149	2145	CODF 01
12/06/77		14:46	.37	1:12	150	2146	CODF 29
12/06/77		14:49	1:88	1:80	151	2147	CODF 05
12/06/77		14:51	.20	1:88	152	2148	CODF 1A
12/06/77		14:54	1:12	.72	153	2149	CODF 02
12/06/77		14:56	1:28	.38	154	2150	CODF 11

END OF SHIFT AT 15:15

MODULE 6 = FUZE ASSEMBLY STATION AW (CONTD) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/07/77	07:27						
12/07/77		07:29	20.62	.5A	155	2151	CONF 06
12/07/77		07:33	3.42	.40	156	2152	CONF 02
12/07/77		07:38	4.60	.3A	157	2153	CONF 02
12/07/77		07:39	.62	.40	15A	2154	CONF 17
12/07/77		07:41	1.60	.40	159	2155	CONF 02
12/07/77		07:44	2.60	.2A	160	2156	CONF 02
12/07/77		07:46	1.72	1.10	161	2157	CONF 01
12/07/77		07:48	.90	.5A	162	215A	CONF 05
12/07/77		07:49	.42	1.45	163	2159	CONF 1A
12/07/77		07:51	.55	.6A	164	2160	CONF 02
12/07/77		07:56	4.32	.40	165	2161	CONF 1A
12/07/77		07:59	2.60	.62	166	2162	CONF 19
12/07/77		08:00	.38	.50	167	2163	CONF 01
12/07/77		08:11	10.50	.93	16A	2164	CONF 17
12/07/77		08:15	3.07	.50	169	2165	CONF 02
12/07/77		08:21	5.50	.50	170	2166	CONF 17
12/07/77		08:22	.50	.6A	171	2167	CONF 1A
12/07/77		08:29	6.32	.83	172	216A	CONF 02
12/07/77		08:31	1.17	.80	173	2169	CONF 01
12/07/77		08:32	.20	.57	174	2170	CONF 02
12/07/77		08:34	1.43	.62	175	2171	CONF 14
12/07/77		08:35	.38	1.2A	176	2172	CONF 02
12/07/77		08:41	4.72	.47	177	2173	CONF 14
12/07/77		08:44	2.53	.53	17A	2174	CONF 02
12/07/77		08:44	3.47	.8A	179	2175	CONF 12
12/07/77		08:56	7.12	2.00	180	2176	CONF 12
12/07/77		09:07	9.00	.6A	181	2177	CONF 14
12/07/77		09:08	.32	.43	182	217A	CONF 05
12/07/77		09:10	1.57	.53	183	2179	CONF 1A
12/07/77		09:11	.47	.80	184	21A0	CONF 1A
12/07/77		09:17	5.20	2.9A	185	21A1	CONF 12
12/07/77		09:23	3.02	.63	186	21A2	CONF 11
12/07/77		09:25	1.37	.22	187	21A3	CONF 02
12/07/77		10:00	14.78	.42	18A	21A4	CONF 17
12/07/77		10:07	6.58	.42	189	21A5	CONF 17
12/07/77		10:0A	.58	.53	190	21A6	CONF 01
12/07/77		10:10	1.47	.90	191	21A7	CONF 1A
12/07/77		10:30	19.10	1.13	192	21A8	CONF 11
12/07/77		10:32	.87	.43	193	21A9	CONF 14

STATION 306 AT LSAAP

(CONTD)

MODULF 6 = FUZE ASSEMBLY STATION 8W

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBR	SYSTEM FAILURE NUMBR	FAILURE MODF
12/07/77		10:35	2.57	.67	194	2190	CONF 11
12/07/77		10:37	1.33	1.10	195	2191	CONF 11
12/07/77		10:40	1.90	1.17	196	2192	CONF 11
12/07/77		10:50	8.83	.42	197	2193	CONF 02
12/07/77		10:55	4.58	1.05	198	2194	CONF 1A
12/07/77		11:02	5.95	.5A	199	2195	CONF 06
12/07/77		11:05	2.42	.43	200	2196	CONF 01
12/07/77		11:11	5.57	.37	201	2197	CONF 14
12/07/77		11:14	2.63	.33	202	2198	CONF 14
12/07/77		11:15	.67	.92	203	2199	CONF 02
12/07/77		11:17	1.08	.53	204	2200	CONF 17
12/07/77		11:20	2.47	.52	205	2201	CONF 1A
12/07/77		11:28	7.48	.62	206	2202	CONF 17
12/07/77		11:29	.38	.53	207	2203	CONF 17
12/07/77		11:30	.47	1.43	208	2204	CONF 17
12/07/77		11:35	3.57	.5A	209	2205	CONF 17
12/07/77		11:40	4.42	.25	210	2206	CONF 11
12/07/77		11:42	1.75	.25	211	2207	CONF 11
12/07/77		11:49	6.75	.22	212	2208	CONF 17
12/07/77		12:35	8.78	.85	213	2209	CONF 02
12/07/77		12:36	.15	.37	214	2210	CONF 01
12/07/77		12:37	.63	.4A	215	2211	CONF 24
12/07/77		12:38	.52	.57	216	2212	CONF 24
12/07/77		12:39	.43	.52	217	2213	CONF 24
12/07/77		12:54	14.48	.52	218	2214	CONF 11
12/07/77		13:00	5.48	.6A	219	2215	CONF 17
12/07/77		13:01	.32	.40	220	2216	CONF 01
12/07/77		13:05	3.60	.42	221	2217	CONF 14
12/07/77		13:06	.58	.65	222	2218	CONF 14
12/07/77		13:08	1.35	.47	223	2219	CONF 01
12/07/77		13:18	9.53	.50	224	2220	CONF 17
12/07/77		13:21	2.50	.25	225	2221	CONF 17
12/07/77		13:25	3.75	.35	226	2222	CONF 17
12/07/77		14:00	17.65	.57	227	2223	CONF 14
12/07/77		14:15	14.43	.2A	228	2224	CONF 14
12/07/77		14:26	10.72	.25	229	2225	CONF 12
12/07/77		14:40	13.75	.65	230	2226	CONF 17
12/07/77		14:41	.35	.25	231	2227	CONF 17
12/07/77		14:55	13.75	.45	232	2228	CONF 17
12/07/77		14:56	.55	.2A	233	2229	CONF 01

MODULE 6 = FU7E ASSEMBLY STATION 8W (CONTD) STATION 306 AT LSAAP

(CONTD)

MODULE 6 = FU7E ASSEMBLY STATION 8W (CONTD)

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
12/07/77	15:00	15:00	3.72	.57	234	2230	CODE 1A	
12/07/77	15:05	15:05	4.43	.2A	235	2231	CODE 14	
12/07/77			END OF SHFT AT 15:15					
12/08/77	07:27							
12/08/77		07:28	10.72	.43	236	2232	CODE 05	
12/08/77		07:35	6.57	.43	237	2233	CODE 14	
12/08/77		07:36	.57	.33	238	2234	CODE 05	
12/08/77		07:41	4.67	.62	239	2235	CODE 05	
12/08/77		07:42	.38	.43	240	2236	CODE 11	
12/08/77		07:43	.57	1.17	241	2237	CODE 11	
12/08/77		07:47	2.83	1.02	242	2238	CODE 01	
12/08/77		07:55	6.98	.47	243	2239	CODE 01	
12/08/77		08:00	4.53	.37	244	2240	CODE 17	
12/08/77		08:04	3.63	.43	245	2241	CODE 02	
12/08/77		08:10	5.57	1.02	246	2242	CODE 1A	
12/08/77		08:2A	16.98	.8A	247	2243	CODE 02	
12/08/77		08:39	10.12	.57	248	2244	CODE 14	
12/08/77		08:41	1.43	.2A	249	2245	CODE 02	
12/08/77		08:42	.72	.8A	250	2246	CODE 17	
12/08/77		08:44	1.12	.43	251	2247	CODE 14	
12/08/77		08:46	1.57	.65	252	2248	CODE 05	
12/08/77		09:00	13.35	.62	253	2249	CODE 05	
12/08/77		09:02	1.38	.45	254	2250	CODE 1A	
12/08/77		09:06	3.55	.33	255	2251	CODE 02	
12/08/77		09:11	4.67	.2A	256	2252	CODE 14	
12/08/77		09:15	3.72	.53	257	2253	CODE 14	
12/08/77		09:24	8.47	.40	258	2254	CODE 1A	
12/08/77		09:25	.60	.45	259	2255	CODE 01	
12/08/77		09:47	4.55	2.20	260	2256	CODE 14	
12/08/77		09:54	4.80	3.10	261	2257	CODE 07	
12/08/77		10:1A	20.90	.55	262	2258	CODE 01	
12/08/77		10:19	.45	.95	263	2259	CODE 29	
12/08/77		10:2A	8.05	1.27	264	2260	CODE 05	
12/08/77		10:35	5.73	.82	265	2261	CODE 14	
12/08/77		10:3A	2.18	.50	266	2262	CODE 01	
12/08/77		10:39	.50	.60	267	2263	CODE 1A	
12/08/77		10:50	10.40	.62	268	2264	CODE 01	
12/08/77		10:52	1.38	.22	269	2265	CODE 06	
12/08/77		10:54	1.78	.50	270	2266	CODE 17	

MODULE 6 = FU7F ASSEMBLY STATION 8W (CONTD) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBFR	SYSTEM FAILURE NUMBFR	FAILURE MODE
12/0A/77		10:59	4.50	.27	271	2267	CODE 14
12/0A/77		11:00	.73	.35	272	226A	CODE 02
12/0A/77		11:01	.65	1.2A	273	2269	CODE 19
12/0A/77		11:03	.72	.25	274	2270	CODE 02
12/0A/77		11:09	5.75	.57	275	2271	CODE 02
12/0A/77		11:10	.43	.52	276	2272	CODE 02
12/0A/77		11:11	.48	.87	277	2273	CODE 17
12/0A/77		11:41	6.12	1.1A	27A	2274	CODE 02
12/0A/77		12:30	12.82	2.8A	279	2275	CODE 11
12/0A/77		12:33	.12	1.77	280	2276	CODE 1A
12/0A/77		12:37	2.23	1.10	281	2277	CODE 01
12/0A/77		12:39	.90	.47	282	2278	CODE 01
12/0A/77		12:41	1.57	1.2A	283	2279	CODE 02
12/0A/77		12:43	.72	.57	284	22A0	CODE 12
12/0A/77		12:44	.47	.37	285	22A1	CODE 02
12/0A/77		12:51	6.63	.53	286	22A2	CODE 17
12/0A/77		13:01	9.47	.47	287	22A3	CODE 14
12/0A/77		13:08	6.53	.2A	28A	22A4	CODE 14
12/0A/77		13:12	3.72	.57	289	22A5	CODE 17
12/0A/77		13:19	6.47	.62	290	22A6	CODE 1A
12/0A/77		13:20	.38	.42	291	22A7	CODE 02
12/0A/77		13:21	.58	.67	292	22A8	CODE 17
12/0A/77		13:5A	19.37	.37	293	22A9	CODE 17
12/0A/77		14:07	8.63	.27	294	2290	CODE 17
12/0A/77		14:0A	.73	.37	295	2291	CODE 02
12/0A/77		14:12	3.67	.67	296	2292	CODE 02
12/0A/77		14:17	4.37	.2A	297	2293	CODE 01
12/0A/77		14:27	9.72	.47	29A	2294	CODE 17
12/0A/77		14:29	1.53	.32	299	2295	CODE 11
12/0A/77		14:30	.68	.27	300	2296	CODE 14
12/0A/77		14:32	1.73	.52	301	2297	CODE 02
12/0A/77		14:33	.48	.30	302	229A	CODE 17
12/0A/77		14:35	1.70	.35	303	2299	CODE 11
12/0A/77		14:40	4.65	.4A	304	2300	CODE 11
12/0A/77		14:41	.52	.27	305	2301	CODE 02
12/0A/77		14:46	4.73	1.10	306	2302	CODE 05
12/0A/77		14:51	3.90	.27	307	2303	CODE 02
12/0A/77		14:55	3.77	.2A	30A	2304	CODE 01
12/0A/77		15:07	11.72	.50	309	2305	CODE 05

END OF SHIFT AT 15:10

MODULE 6 = FUZE ASSEMBLY STATION RW (CONTO) STATION 306 AT L5AAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMRFR	FAILURE MODE
12/09/77	07:30	07:31	3.50	1.00	310	2306	COOF 1A
12/09/77		07:37	5.00	.92	311	2307	COOF 17
12/09/77		07:41	3.08	.52	312	2308	COOF 17
12/09/77		07:44	2.48	.42	313	2309	COOF 05
12/09/77		07:45	.58	.45	314	2310	COOF 11
12/09/77		07:53	7.55	.42	315	2311	COOF 02
12/09/77		07:56	2.58	2.7A	316	2312	COOF 05
12/09/77		08:01	2.22	.47	317	2313	COOF 1A
12/09/77		08:03	1.53	.52	318	2314	COOF 02
12/09/77		08:06	2.4A	.63	319	2315	COOF 02
12/09/77		08:10	3.37	.82	320	2316	COOF 1A
12/09/77		08:12	1.18	.37	321	2317	COOF 06
12/09/77		08:21	8.63	.5A	322	2318	COOF 1A
12/09/77		08:22	.42	.63	323	2319	COOF 14
12/09/77		08:23	.37	.83	324	2320	COOF 02
12/09/77		08:25	1.17	.25	325	2321	COOF 17
12/09/77		08:28	2.75	.63	326	2322	COOF 01
12/09/77		08:3A	9.37	.87	327	2323	COOF 02
12/09/77		08:45	6.13	.43	32A	2324	COOF 17
12/09/77		08:50	4.57	.37	329	2325	COOF 1A
12/09/77		08:51	.63	1.02	330	2326	COOF 1A
12/09/77		08:54	1.98	1.2A	331	2327	COOF 19
12/09/77		08:59	3.72	10.13	332	232A	WORKING ON GREN CONV RFLT
12/09/77		09:10	.87	.3A	333	2329	COOF 05
12/09/77		09:11	.62	.57	334	2330	COOF 01
12/09/77		09:1A	6.43	2.12	335	2331	COOF 17
12/09/77		09:21	.88	.80	336	2332	COOF 06
12/09/77		09:22	.20	.47	337	2333	COOF 05
12/09/77		09:50	10.53	.82	33A	2334	COOF 05
12/09/77		10:00	9.1A	1.02	339	2335	COOF 05
12/09/77		10:02	.98	.80	340	2336	COOF 14
12/09/77		10:03	.20	.5A	341	2337	COOF 02
12/09/77		10:16	12.42	.62	342	2338	COOF 1A
12/09/77		10:20	3.38	.12	343	2339	COOF 14
12/09/77		10:26	5.8A	1.22	344	2340	COOF 1A
12/09/77		10:28	.78	3.10	345	2341	COOF 18
12/09/77		10:47	15.90	.45	346	2342	COOF 11
12/09/77		10:50	2.55	.40	347	2343	COOF 14
12/09/77		10:55	4.60	.3A	34A	2344	COOF 01

MODULF 6 = FU7E ASSEMBLY STATION 8W (CONTD) STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/09/77		10:58	2.62	1.6A	349	2345	CODF 05
12/09/77		11:00	.32	.2A	350	2346	CODF 02
12/09/77		11:01	.72	1.33	351	2347	CODF 05
12/09/77		11:03	.67	.43	352	234A	CODF 1A
12/09/77		11:04	.57	.42	353	2349	CODF 01
12/09/77		11:07	2.58	.20	354	2350	CODF 14
12/09/77		11:09	1.80	.42	355	2351	CODF 17
12/09/77		11:10	.58	2.5A	356	2352	CODF 11
12/09/77		11:15	2.42	.67	357	2353	CODF 02
12/09/77		11:16	.33	.35	35A	2354	CODF 02
12/09/77		11:17	.65	.92	359	2355	CODF 10
12/09/77		11:36	18.08	.75	360	2356	CODF 14
12/09/77		11:4A	11.25	1.43	361	2357	CODF 02
12/09/77		12:32	5.57	.43	362	235A	CODF 02
12/09/77		12:34	1.57	.22	363	2359	CODF 06
12/09/77		12:37	2.78	.8A	364	2360	CODF 02
12/09/77		12:41	3.12	.33	365	2361	CODF 02
12/09/77		12:45	3.67	.57	366	2362	CODF 14
12/09/77		12:47	1.43	.53	367	2363	CODF 14
12/09/77		12:51	3.47	.52	36A	2364	CODF 02
12/09/77		12:52	.48	.72	369	2365	CODF 12
12/09/77		12:57	4.2A	.47	370	2366	CODF 01
12/09/77		12:59	1.53	1.13	371	2367	CODF 02
12/09/77		13:01	.87	.32	372	236A	CODF 1A
12/09/77		13:19	17.68	.75	373	2369	CODF 14
12/09/77		13:22	2.25	.62	374	2370	CODF 12
12/09/77		13:24	1.38	.6A	375	2371	CODF 02
12/09/77		13:55	15.32	.43	376	2372	CODF 17
12/09/77		13:56	.57	1.93	377	2373	CODF 02
12/09/77		13:5A	.07	.32	37A	2374	CODF 02
12/09/77		14:00	1.68	.97	379	2375	CODF 06
12/09/77		14:09	8.03	.30	380	2376	CODF 14
12/09/77		14:16	6.70	.40	381	2377	CODF 02
12/09/77		14:21	4.60	.62	382	237A	CODF 02
12/09/77		14:2A	6.38	.45	383	2379	CODF 02
12/09/77		14:31	2.55	.3A	384	23A0	CODF 1A
12/09/77		14:35	3.62	.33	385	23A1	CODF 1A
12/09/77		14:37	1.67	.23	386	23A2	CODF 14
12/09/77		14:41	3.77	.40	387	23A3	CODF 17
12/09/77		14:4A	6.60	.53	38A	23A4	CODF 02

MODULE 6 = FUZE ASSEMBLY STATION 8W

(CONTD)

STATION 306 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/09/77							

END OF SHIFT AT 15:15

STATION 307 AT LSAAP

MODULE 7 = FUZE ASSEMBLY STATION 9E

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBR	FAILURE MODE
11/28/77	07:50	0A:00	10.00	.42	1	2385	CODF 24
11/28/77		0A:02	1.58	.2A	2	2386	CODF 24
11/28/77		0A:05	2.72	.92	3	2387	CODF 24
11/28/77		0A:07	1.08	.93	4	2388	CODF 24
11/28/77		0A:09	1.07	.42	5	2389	CODF 24
11/28/77		0A:15	5.58	.60	6	2390	CODF 24
11/28/77		0A:22	6.40	.80	7	2391	CODF 24
11/28/77		0A:32	9.20	.42	8	2392	CODF 02
11/28/77		0A:34	1.58	.52	9	2393	CODF 01
11/28/77		0A:36	1.48	.50	10	2394	CODF 01
11/28/77		0A:40	3.50	1.10	11	2395	CODF 12
11/28/77		0A:45	3.90	.32	12	2396	CODF 14
11/28/77		0A:47	1.68	1.40	13	2397	CODF 12
11/28/77		0A:50	1.60	.80	14	2398	CODF 02
11/28/77		0A:55	4.20	.63	15	2399	CODF 12
11/28/77		0A:58	2.37	1.00	16	2400	CODF 01
11/28/77		09:00	1.00	.32	17	2401	CODF 01
11/28/77		09:02	1.68	.42	18	2402	CODF 12
11/28/77		09:05	2.58	.40	19	2403	CODF 01
11/28/77		09:08	2.60	.50	20	2404	CODF 25
11/28/77		09:13	4.50	.75	21	2405	CODF 24
11/28/77		09:16	2.25	.25	22	2406	CODF 01
11/28/77		09:20	3.75	1.02	23	2407	CODF 03
11/28/77		09:24	2.98	.22	24	2408	CODF 24
11/28/77		09:50	7.78	1.8A	25	2409	CODF 01
11/28/77		10:00	8.12	.50	26	2410	CODF 14
11/28/77		10:02	1.50	.43	27	2411	CODF 01
11/28/77		10:10	7.57	.35	28	2412	CODF 01
11/28/77		10:11	.65	.92	29	2413	CODF 01
11/28/77		10:13	1.08	1.02	30	2414	CODF 25
11/28/77		10:18	3.98	.37	31	2415	CODF 01
11/28/77		10:22	3.63	.82	32	2416	CODF 11
11/28/77		10:25	2.18	.45	33	2417	CODF 01
11/28/77		10:2A	2.55	1.20	34	2418	CODF 01
11/28/77		10:35	5.80	.53	35	2419	CODF 02
11/28/77		10:36	.47	1.02	36	2420	CODF 03
11/28/77		10:40	2.98	5.10	37	2421	REPAIR BODY CONVFYOR
11/28/77		10:4A	2.90	9.50	38	2422	REPAIR BODY CONVFYOR
11/28/77		10:59	1.50	.82	39	2423	CODF 01

MODULE 7 = FUZE ASSMRLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/28/77		11:01	1.18	.62	40	2424	CODE 18
11/28/77		11:04	2.38	111.00	41	2425	REPAIR BODY CONVEYOR RFT
11/28/77		13:29	4.00	.50	42	2426	CODE 14
11/28/77		13:50	5.50	2.10	43	2427	REPAIR BODY CONV RFT
11/28/77		14:00	7.90	.27	44	2428	CODE 24
11/28/77		14:02	1.73	7.00	45	2429	CODE 14
11/28/77		14:11	2.00	.33	46	2430	CODE 01
11/28/77		14:13	1.67	.20	47	2431	CODE 18
11/28/77		14:17	3.80	.82	48	2432	CODE 02
11/28/77		14:20	2.18	.50	49	2433	CODE 02
11/28/77		14:24	3.50	.40	50	2434	CODE 01
11/28/77		14:30	5.60	.62	51	2435	CODE 18
11/28/77		14:34	3.38	.18	52	2436	CODE 02
11/28/77		14:38	3.82	.80	53	2437	CODE 25
11/28/77		14:40	1.20	1.12	54	2438	REPLACED LIGHT
11/28/77		14:45	3.88	.68	55	2439	CODE 25
11/28/77		14:50	4.32	.28	56	2440	CODE 02
11/28/77		14:58	7.72	.25	57	2441	CODE 01
END OF SHIFT AT 15:15							

11/30/77	07:30						
11/30/77		07:34	20.75	.58	58	2442	CODE 12
11/30/77		07:37	2.42	.62	59	2443	CODE 05
11/30/77		07:38	.38	.32	60	2444	CODE 01
11/30/77		07:39	.68	.35	61	2445	CODE 02
11/30/77		07:43	3.65	.27	62	2446	CODE 01
11/30/77		07:44	.73	.35	63	2447	CODE 18
11/30/77		07:45	.65	11.20	64	2448	CODE 11
11/30/77		08:00	3.80	.22	65	2449	CODE 24
11/30/77		08:05	4.78	2.53	66	2450	CODE 21
11/30/77		08:09	1.47	.82	67	2451	CODE 18
11/30/77		08:15	5.18	.70	68	2452	CODE 01
11/30/77		08:34	17.95	.37	69	2453	CODE 01
11/30/77		08:37	2.63	.27	70	2454	CODE 18
11/30/77		08:42	4.73	.42	71	2455	CODE 14
11/30/77		08:44	1.58	.65	72	2456	CODE 02
11/30/77		08:50	5.35	.32	73	2457	CODE 18
11/30/77		08:55	4.68	.47	74	2458	CODE 01
11/30/77		09:00	4.53	.50	75	2459	CODE 18
11/30/77		09:05	4.50	1.12	76	2460	CODE 25

MODULE 7 = FUXF ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77	09:10	3:88	.42	77	2461	CODF 01	
11/30/77	10:05	9:58	.22	77	2462	CODF 14	
11/30/77	10:07	1:78	3:2A	79	2463	CODF 11	
11/30/77	10:12	1:72	.32	80	2464	CODF 05	
11/30/77	10:13	.68	.82	81	2465	CODF 01	
11/30/77	10:15	1:18	.17	82	2466	CODF 05	
11/30/77	10:1A	2:83	.43	83	2467	CODF 1A	
11/30/77	10:20	1:57	.61	84	2468	CODF 05	
11/30/77	10:24	3:37	.52	85	2469	CODF 1A	
11/30/77	10:30	5:48	.55	86	2470	CODF 05	
11/30/77	10:31	.45	.48	87	2471	CODF 02	
11/30/77	10:3A	6:52	.52	8A	2472	CODF 01	
11/30/77	10:44	5:48	1:55	89	2473	CODF 1A	
11/30/77	10:47	1:45	.70	90	2474	CODF 1A	
11/30/77	10:49	1:30	1:50	91	2475	CODF 02	
11/30/77	10:55	4:50	.37	92	2476	CODF 05	
11/30/77	11:01	5:63	.23	93	2477	CODF 1A	
11/30/77	11:10	8:77	.43	94	2478	CODF 1A	
11/30/77	11:14	3:57	.37	95	2479	CODF 01	
11/30/77	11:25	10:63	.75	96	2480	CODF 02	
11/30/77	11:33	7:25	.47	97	2481	CODF 1A	
11/30/77	11:3A	4:53	.53	9A	2482	CODF 14	
11/30/77	11:45	6:47	.70	99	2483	CODF 02	
11/30/77	12:35	14:30	.61	100	2484	CODF 1A	
11/30/77	12:45	9:37	.50	101	2485	CODF 1A	
11/30/77	13:10	1A:45	.43	102	2486	CODF 1A	
11/30/77	13:19	8:57	.50	103	2487	CODF 02	
11/30/77	14:00	20:50	.37	104	248A	CODF 1A	
11/30/77	14:01	.63	.42	105	2489	CODF 1A	
11/30/77	14:15	13:58	.92	106	2490	CODF 02	
11/30/77	14:20	4:08	.40	107	2491	CODF 01	
11/30/77	14:30	9:60	.40	10A	2492	CODF 14	
11/30/77	14:35	4:60	.2A	109	2493	CODF 02	
11/30/77	14:37	1:72	.80	110	2494	CODF 02	
11/30/77	14:39	1:20	.33	111	2495	CODF 02	
11/30/77	14:40	.67	1:12	112	2496	CODF 05	
11/30/77	14:45	3:88	.7A	113	2497	CODF 1A	
11/30/77	14:59	13:22	.25	114	249A	CODF 02	
11/30/77	15:01	1:75	.40	115	2499	CODF 02	
11/30/77	15:04	2:60	.2A	116	2500	CODF 01	

MODULE 7 = FU7F ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77		15:06	1.72	.40	117	2501	CODF 02
11/30/77		15:10	3.60	.27	118	2502	CODF 02
11/30/77		15:12	1.73	.30	119	2503	CODF 02
END OF SHIFT AT 15:27							
12/01/77	07:27						
12/01/77		07:35	10.70	.47	120	2504	CODF 01
12/01/77		07:40	4.53	1.00	121	2505	CODF 1A
12/01/77		07:44	3.00	.22	122	2506	CODF 02
12/01/77		07:46	1.78	.45	123	2507	CODF 02
12/01/77		07:47	.55	.8A	124	2508	CODF 1A
12/01/77		08:00	12.12	.1A	125	2509	CODF 01
12/01/77		08:09	8.82	.42	126	2510	CODF 02
12/01/77		08:10	.58	.85	127	2511	CODF 1A
12/01/77		08:15	4.15	2.00	128	2512	CODF 12
12/01/77		08:20	3.00	.32	129	2513	CODF 01
12/01/77		08:21	.68	.43	130	2514	CODF 01
12/01/77		08:30	8.57	.40	131	2515	CODF 05
12/01/77		08:32	1.60	.50	132	2516	CODF 1A
12/01/77		08:33	.50	.47	133	2517	CODF 1A
12/01/77		08:40	6.53	1.12	134	2518	CODF 02
12/01/77		08:44	2.88	.60	135	2519	CODF 02
12/01/77		09:05	20.40	.32	136	2520	CODF 01
12/01/77		09:08	2.68	.2A	137	2521	CODF 02
12/01/77		09:11	2.72	.25	138	2522	CODF 02
12/01/77		09:14	2.75	.32	139	2523	CODF 01
12/01/77		09:59	23.68	4.92	140	2524	CODF 1A
12/01/77		10:05	1.08	.8A	141	2525	CODF 03
12/01/77		10:14	8.12	.40	142	2526	CODF 01
12/01/77		10:15	.60	.95	143	2527	CODF 02
12/01/77		10:20	4.05	.80	144	2528	CODF 14
12/01/77		10:21	.20	.65	145	2529	CODF 02
12/01/77		10:23	1.35	.27	146	2530	CODF 02
12/01/77		10:26	2.73	.75	147	2531	CODF 02
12/01/77		10:35	8.25	.60	148	2532	CODF 1A
12/01/77		10:39	3.40	.50	149	2533	CODF 02
12/01/77		10:41	1.50	.32	150	2534	CODF 02
12/01/77		10:43	1.68	.10	151	2535	CODF 01
12/01/77		10:45	1.90	.31	152	2536	CODF 02
12/01/77		10:53	7.67	.32	153	2537	CODF 01

MODULF 7 = FUZE ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/01/77	10:58		4.68	.43	154	2538	CODF 01
12/01/77	11:00		1.57	.23	155	2539	CODF 01
12/01/77	11:01		.77	.65	156	2540	CODF 02
12/01/77	11:03		1.35	.20	157	2541	CODF 02
12/01/77	11:05		1.80	.45	158	2542	CODF 01
12/01/77	11:10		4.55	.40	159	2543	CODF 02
12/01/77	11:15		4.60	.63	160	2544	CODF 01
12/01/77	11:17		1.37	.32	161	2545	CODF 01
12/01/77	11:25		7.68	1.12	162	2546	CODF 01
12/01/77	11:28		1.88	.50	163	2547	CODF 02
12/01/77	11:30		1.50	.77	164	2548	CODF 01
12/01/77	11:31		.23	2.08	165	2549	CODF 02
12/01/77	11:40		6.92	.28	166	2550	CODF 02
12/01/77	11:50		9.72	.45	167	2551	CODF 1A
12/01/77	12:31		5.55	.35	168	2552	CODF 1A
12/01/77	12:35		3.65	.42	169	2553	CODF 02
12/01/77	12:53		17.58	.65	170	2554	CODF 01
12/01/77	13:00		6.35	.25	171	2555	CODF 01
12/01/77	13:05		4.75	.63	172	2556	CODF 01
12/01/77	13:14		8.37	.38	173	2557	CODF 02
12/01/77	13:22		7.62	.40	174	2558	CODF 01
12/01/77	13:23		.60	.60	175	2559	CODF 01
12/01/77	13:25		1.40	.20	176	2560	CODF 01
12/01/77	13:27		1.80	.35	177	2561	CODF 01
12/01/77	13:52		4.65	.42	178	2562	CODF 1A
12/01/77	13:55		2.58	.37	179	2563	CODF 02
12/01/77	13:57		1.63	.40	180	2564	CODF 01
12/01/77	14:00		2.60	.62	181	2565	CODF 1A
12/01/77	14:02		1.38	.40	182	2566	CODF 01
12/01/77	14:15		12.60	.25	183	2567	CODF 01
12/01/77	14:16		.75	.28	184	2568	CODF 02
12/01/77	14:20		3.72	.32	185	2569	CODF 01
12/01/77	14:22		1.68	2.65	186	2570	CODF 02
12/01/77	14:25		.35	.43	187	2571	CODF 01
12/01/77	14:26		.57	2.10	188	2572	CODF 02
12/01/77	14:30		1.90	.75	189	2573	CODF 02
12/01/77	14:31		.25	.42	190	2574	CODF 02
12/01/77	14:33		1.58	3.08	191	2575	CODF 02
12/01/77	14:37		.92	1.53	192	2576	CODF 02
12/01/77	14:44		5.47	.70	193	2577	CODF 02

MODULE 7 = FU7F ASSEMBLY STATION 9E (CONT'D) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
12/01/77		14:50	5.30	2.50	194	2578	CODF 02	
12/01/77		14:55	2.50	2.40	195	2579	CODF 02	
12/01/77		15:00	2.60	1.58	196	2580	CODF 02	
12/01/77		15:03	1.42	3.10	197	2581	CODF 02	
12/01/77		15:07	.90	3.68	198	2582	CODF 02	
12/01/77		END OF SHIFT AT 15:27						
12/02/77	07:30							
12/02/77		07:34	8.32	1.10	199	2583	CODF 02	
12/02/77		07:36	.90	2.15	200	2584	CODF 02	
12/02/77		07:39	.85	3.40	201	2585	CODF 02	
12/02/77		08:00	17.60	.22	202	2586	CODF 02	
12/02/77		08:10	9.78	.25	203	2587	CODF 02	
12/02/77		08:11	.75	.42	204	2588	CODF 1A	
12/02/77		08:14	2.58	.42	205	2589	CODF 01	
12/02/77		08:16	1.58	.50	206	2590	CODF 02	
12/02/77		08:22	5.50	.35	207	2591	CODF 1A	
12/02/77		08:25	2.65	1.32	208	2592	CODF 02	
12/02/77		08:30	3.68	1.88	209	2593	CODF 25	
12/02/77		08:34	2.12	2.02	210	2594	CODF 02	
12/02/77		08:50	13.98	.60	211	2595	CODF 14	
12/02/77		08:52	1.40	.68	212	2596	CODF 1A	
12/02/77		09:04	11.32	.47	213	2597	CODF 01	
12/02/77		09:10	5.53	.67	214	2598	CODF 1A	
12/02/77		09:15	4.33	.43	215	2599	CODF 02	
12/02/77		09:16	.57	.50	216	2600	CODF 01	
12/02/77		09:22	5.50	.22	217	2601	CODF 01	
12/02/77		09:49	8.78	.42	218	2602	CODF 1A	
12/02/77		09:50	.58	.28	219	2603	CODF 01	
12/02/77		09:51	.72	.32	220	2604	CODF 02	
12/02/77		10:00	8.68	.67	221	2605	CODF 05	
12/02/77		10:02	1.33	.38	222	2606	CODF 02	
12/02/77		10:05	2.62	.95	223	2607	CODF 05	
12/02/77		10:17	11.05	.47	224	2608	CODF 05	
12/02/77		10:21	3.53	1.23	225	2609	CODF 02	
12/02/77		10:35	10.70	.58	226	2610	CODF 05	
12/02/77		10:39	3.42	.57	227	2611	CODF 01	
12/02/77		10:40	.43	.35	228	2612	CODF 01	
12/02/77		10:42	1.65	.38	229	2613	CODF 05	
12/02/77		10:43	.62	1.08	230	2614	CODF 29	

MODULE 7 = FUZF ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		10:50	5.92	.32	231	2615	CODF 01
12/02/77		10:51	.68	.47	232	2616	CODF 05
12/02/77		10:55	3.53	.45	233	2617	CODF 05
12/02/77		10:56	.55	.67	234	2618	CODF 05
12/02/77		11:00	3.33	.62	235	2619	CODF 01
12/02/77		11:02	1.38	.55	236	2620	CODF 01
12/02/77		11:05	2.45	.75	237	2621	CODF 05
12/02/77		11:07	1.25	.43	238	2622	CODF 05
12/02/77		11:08	.57	10.10	239	2623	CODF 11
12/02/77		11:20	1.90	.58	240	2624	CODF 1A
12/02/77		11:25	4.42	.45	241	2625	CODF 01
12/02/77		11:30	4.55	.77	242	2626	CODF 02
12/02/77		11:35	4.23	.20	243	2627	CODF 02
12/02/77		11:44	8.80	.50	244	2628	CODF 05
12/02/77		11:47	2.50	.62	245	2629	CODF 02
12/02/77		11:50	2.38	.70	246	2630	CODF 02
12/02/77		12:36	5.30	1.02	247	2631	CODF 02
12/02/77		12:38	.98	.80	248	2632	CODF 05
12/02/77		12:39	.20	.93	249	2633	CODF 02
12/02/77		12:41	1.07	.55	250	2634	CODF 05
12/02/77		12:45	3.45	.35	251	2635	CODF 01
12/02/77		12:50	4.65	.27	252	2636	CODF 02
12/02/77		12:52	1.73	.28	253	2637	CODF 05
12/02/77		13:00	7.72	.27	254	2638	CODF 01
12/02/77		13:02	1.73	.22	255	2639	CODF 02
12/02/77		13:07	4.78	.57	256	2640	CODF 02
12/02/77		13:08	.43	10.00	257	2641	CODF 2A
12/02/77		13:20	2.00	.43	258	2642	CODF 01
12/02/77		13:48	10.57	1.10	259	2643	CODF 25
12/02/77		13:55	5.90	.62	260	2644	CODF 02
12/02/77		14:00	4.38	.18	261	2645	CODF 01
12/02/77		14:01	.82	.48	262	2646	CODF 03
12/02/77		14:08	6.52	.63	263	2647	CODF 11
12/02/77		14:10	1.37	.68	264	2648	CODF 1A
12/02/77		14:11	.32	.80	265	2649	CODF 02
12/02/77		14:14	2.20	.20	266	2650	CODF 02
12/02/77		14:15	.80	.32	267	2651	CODF 02
12/02/77		14:17	1.68	.35	268	2652	CODF 25
12/02/77		14:24	6.65	.68	269	2653	CODF 05
12/02/77		14:25	.32	.72	270	2654	CODF 02

MODULF 7 = FUZE ASSEMBLY STATION 9E (CONTO) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MONF	
12/02/77		14:40	14:28	1.8A	271	2655	CODF 02	
12/02/77		14:45	3.12	.30	272	2656	CODF 01	
12/02/77		14:50	4.70	.77	273	2657	CODF 02	
12/02/77			END OF SHIFT AT 15:27					
12/16/77	07:30							
12/16/77		07:43	27.23	6.83	274	265A	CODF 12	
12/16/77		07:51	1.17	4.77	275	2659	CODF 02	
12/16/77		08:26	3.35	1.15	276	2660	CODF 02	
12/16/77		08:28	.85	.20	277	2661	CODF 02	
12/16/77		08:31	2.80	.4A	278	2662	CODF 01	
12/16/77		08:32	.52	.37	279	2663	CODF 01	
12/16/77		08:40	7.63	.37	280	2664	CODF 01	
12/16/77		08:43	2.63	.31	281	2665	CODF 01	
12/16/77		08:51	7.67	.31	282	2666	CODF 12	
12/16/77		08:52	.67	.23	283	2667	CODF 12	
12/16/77		08:53	.77	.28	284	266A	CODF 12	
12/16/77		08:54	.72	.22	285	2669	CODF 12	
12/16/77		08:57	2.78	.3A	286	2670	CODF 01	
12/16/77		08:59	1.62	.32	287	2671	CODF 01	
12/16/77		09:05	5.68	.45	288	2672	CODF 12	
12/16/77		09:06	.55	.43	289	2673	CODF 12	
12/16/77		09:07	.57	.33	290	2674	CODF 12	
12/16/77		09:11	3.67	.2A	291	2675	CODF 12	
12/16/77		09:14	2.72	.43	292	2676	CODF 12	
12/16/77		09:17	2.57	.63	293	2677	CODF 12	
12/16/77		09:20	2.37	.40	294	2678	CODF 14	
12/16/77		09:46	10.60	.53	295	2679	CODF 01	
12/16/77		09:53	6.47	1.10	296	2680	CODF 10	
12/16/77		09:55	.90	.47	297	2681	CODF 01	
12/16/77		09:56	.53	.40	298	2682	CODF 01	
12/16/77		10:01	4.60	.30	299	2683	CODF 01	
12/16/77		10:06	4.70	.3A	300	2684	CODF 01	
12/16/77		10:08	1.62	.37	301	2685	CODF 01	
12/16/77		10:12	3.63	.20	302	2686	CODF 01	
12/16/77		10:15	2.80	.42	303	2687	CODF 01	
12/16/77		10:16	.58	.32	304	268A	CODF 01	
12/16/77		10:17	.68	.3A	305	2689	CODF 01	
12/16/77		10:18	.62	.50	306	2690	CODF 15	
12/16/77		10:20	1.50	.2A	307	2691	CODF 01	

MODULE 7 = FU7F ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		10:23	2.72	.20	30A	2692	CODF 12
12/16/77		10:25	1.80	.5A	309	2693	CODF 03
12/16/77		10:26	.42	.27	310	2694	CODF 01
12/16/77		10:29	2.73	.37	311	2695	CODF 01
12/16/77		10:31	1.63	.20	312	2696	CODF 02
12/16/77		10:36	4.80	.37	313	2697	CODF 01
12/16/77		10:43	6.63	.32	314	269A	CODF 01
12/16/77		10:45	1.68	.2A	315	2699	CODF 05
12/16/77		10:46	.72	.70	316	2700	CODF 12
12/16/77		10:50	3.30	.27	317	2701	CODF 01
12/16/77		10:51	.73	.22	31A	2702	CODF 05
12/16/77		10:52	.7A	.22	319	2703	CODF 01
12/16/77		10:53	.78	1.22	320	2704	CODF 02
12/16/77		10:56	1.78	.13	321	2705	CODF 12
12/16/77		10:57	.87	.40	322	2706	CODF 01
12/16/77		11:00	2.60	.2A	323	2707	CODF 06
12/16/77		11:03	2.72	.47	324	270A	CODF 01
12/16/77		11:07	3.53	.32	325	2709	CODF 01
12/16/77		11:10	2.68	.35	32A	2710	CODF 01
12/16/77		11:11	.65	.92	327	2711	CODF 01
12/16/77		11:12	.08	.25	32A	2712	CODF 01
12/16/77		11:14	1.75	.23	329	2713	CODF 01
12/16/77		11:17	2.77	.30	330	2714	CODF 01
12/16/77		11:22	4.70	.2A	331	2715	CODF 01
12/16/77		11:24	1.72	.50	332	2716	CODF 01
12/16/77		11:25	.50	.17	333	2717	CODF 01
12/16/77		11:26	.83	.2A	334	271A	CODF 01
12/16/77		11:34	7.72	.42	335	2719	CODF 01
12/16/77		11:35	.58	.27	336	2720	CODF 02
12/16/77		11:36	.73	.50	337	2721	CODF 02
12/16/77		11:37	.50	.37	33A	2722	CODF 01
12/16/77		11:39	1.63	.33	339	2723	CODF 02
12/16/77		11:40	.67	.30	340	2724	CODF 02
12/16/77		11:41	.70	.32	341	2725	CODF 01
12/16/77		11:42	.68	3.85	342	2726	CODF 02
12/16/77		11:49	3.15	.32	343	2727	CODF 01
12/16/77		12:35	15.68	.35	344	272A	CODF 01
12/16/77		12:36	.65	.22	345	2729	CODF 01
12/16/77		12:41	4.78	2.47	346	2730	CODF 02
12/16/77		12:44	.53	.32	347	2731	CODF 01

MODULE 7 = FUZF ASSEMBLY STATION 9E (CONTD) STATION 307 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/16/77		12:45	.68	.43	348	2732	CODF 02
12/16/77		12:46	.57	.30	349	2733	CODF 02
12/16/77		12:48	1.70	2.25	350	2734	CODF 02
12/16/77		12:54	3.75	1.07	351	2735	CODF 01
12/16/77		12:56	.93	2.19	352	2736	CODF 01
12/16/77		13:03	4.82	1.12	353	2737	CODF 01
12/16/77		13:06	1.88	.47	354	2738	CODF 01
12/16/77		13:10	3.53	.28	355	2739	CODF 01
12/16/77		13:11	.72	.37	356	2740	CODF 01
12/16/77		13:15	3.63	.40	357	2741	CODF 01
12/16/77		13:17	1.60	.40	358	2742	CODF 01
12/16/77		13:21	3.60	.37	359	2743	CODF 01
12/16/77		13:25	3.63	.40	360	2744	CODF 01
12/16/77		13:27	1.60	.50	361	2745	CODF 01
12/16/77		13:48	4.50	.40	362	2746	CODF 01
12/16/77		13:50	1.60	.27	363	2747	CODF 01
12/16/77		13:52	1.73	1.20	364	2748	CODF 01
12/16/77		13:54	.80	.30	365	2749	CODF 01
12/16/77		13:59	4.70	.37	366	2750	CODF 01
12/16/77		14:01	1.63	1.13	367	2751	CODF 01
12/16/77		14:03	.87	3.30	368	2752	CODF 01
12/16/77		14:12	5.70	2.20	369	2753	CODF 01
12/16/77		14:15	.80	1.98	370	2754	CODF 01
12/16/77		14:17	.02	.75	371	2755	CODF 01
12/16/77		14:19	1.25	.70	372	2756	CODF 01
12/16/77		14:20	.30	.40	373	2757	CODF 01
12/16/77		14:21	.60	1.05	374	2758	CODF 01
12/16/77		14:28	5.95	.53	375	2759	CODF 01
12/16/77		14:29	.47	.82	376	2760	CODF 02
12/16/77		14:37	7.18	.53	377	2761	CODF 12
12/16/77		14:38	.47	.23	378	2762	CODF 12
12/16/77		14:41	2.77	.35	379	2763	CODF 10
12/16/77		14:42	.65	.33	380	2764	CODF 01
12/16/77		14:43	.67	.28	381	2765	CODF 01
12/16/77		14:45	1.72	.42	382	2766	CODF 02
12/16/77		14:51	5.58	.20	383	2767	CODF 12
12/16/77		14:57	5.80	.47	384	2768	CODF 01
12/16/77		14:58	.53	.50	385	2769	CODF 01
12/16/77		15:05	6.50	.20	386	2770	CODF 01

END OF SHIFT AT 15:15

MODULE A = FUZE ASSEMBLY STATION 9W

STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77	07:27		6.00	2.05	1	2771	CODE 14
12/01/77		07:33	1.95	.62	2	2772	CODE 14
12/01/77		07:37	.38	.23	3	2773	CODE 14
12/01/77		07:38	1.77	.92	4	2774	CODE 14
12/01/77		07:40	1.08	.87	5	2775	CODE 02
12/01/77		07:42	1.13	.53	6	2776	CODE 12
12/01/77		07:44	2.47	.47	7	2777	CODE 12
12/01/77		07:47	1.53	.27	8	2778	CODE 02
12/01/77		07:49	1.73	.32	9	2779	CODE 14
12/01/77		07:51	4.68	.53	10	2780	CODE 14
12/01/77		07:56	2.47	1.02	11	2781	CODE 02
12/01/77		07:59	.98	.52	12	2782	CODE 01
12/01/77		08:01	.48	.37	13	2783	CODE 14
12/01/77		08:02	.63	.13	14	2784	CODE 02
12/01/77		08:03	.87	.50	15	2785	CODE 02
12/01/77		08:04	4.50	.24	16	2786	CODE 02
12/01/77		08:09	1.72	.33	17	2787	CODE 02
12/01/77		08:11	1.67	2.70	18	2788	CODE 11
12/01/77		08:13	1.30	1.32	19	2789	CODE 12
12/01/77		08:17	.68	.84	20	2790	CODE 02
12/01/77		08:19	2.12	.60	21	2791	CODE 02
12/01/77		08:22	.40	.33	22	2792	CODE 02
12/01/77		08:23	1.67	1.73	23	2793	CODE 02
12/01/77		08:25	1.27	.54	24	2794	CODE 02
12/01/77		08:28	2.42	.70	25	2795	CODE 14
12/01/77		08:31	2.30	.90	26	2796	CODE 04
12/01/77		08:34	.10	.50	27	2797	CODE 02
12/01/77		08:35	3.50	.37	28	2798	CODE 02
12/01/77		08:39	3.63	.75	29	2799	CODE 12
12/01/77		08:43	3.25	.54	30	2800	CODE 12
12/01/77		08:47	1.42	.57	31	2801	CODE 12
12/01/77		08:49	.43	1.44	32	2802	CODE 12
12/01/77		08:50	.52	1.32	33	2803	CODE 12
12/01/77		08:52	1.64	1.13	34	2804	CODE 12
12/01/77		08:55	.87	2.12	35	2805	CODE 12
12/01/77		08:57	.88	1.53	36	2806	CODE 12
12/01/77		09:00	.47	1.62	37	2807	CODE 02
12/01/77		09:02	.38	6.83	38	2808	CODE 12
12/01/77		09:04	.17	4.00	39	2809	CODE 12

MODULE R = FU7E ASSEMBLY STATION 9W (CONTD) STATION 30R AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/01/77		09:15	0:00	1.48	40	2810	CODF 12
12/01/77		09:17	.52	.80	41	2811	CODF 12
12/01/77		09:44	.20	.83	42	2812	CODF 12
12/01/77		09:52	7.17	2.75	43	2813	CODF 14
12/01/77		09:56	1.25	2.22	44	2814	CODF 05
12/01/77		10:00	1.78	15.72	45	2815	CODF 09
12/01/77		10:16	.28	1.10	46	2816	CODF 05
12/01/77		10:26	8.90	.43	47	2817	CODF 02
12/01/77		10:28	1.57	.97	48	2818	CODF 05
12/01/77		10:30	1.03	1.12	49	2819	CODF 02
12/01/77		10:33	1.88	1.53	50	2820	CODF 12
12/01/77		10:37	2.47	.40	51	2821	CODF 02
12/01/77		10:38	.60	.60	52	2822	CODF 17
12/01/77		10:41	2.40	.68	53	2823	CODF 02
12/01/77		10:42	.32	.62	54	2824	CODF 05
12/01/77		10:43	.38	.40	55	2825	CODF 02
12/01/77		10:45	1.60	.70	56	2826	CODF 05
12/01/77		10:46	.30	1.40	57	2827	CODF 10
12/01/77		10:49	1.60	.72	58	2828	CODF 18
12/01/77		10:51	1.28	1.12	59	2829	CODF 05
12/01/77		10:55	2.88	.50	60	2830	CODF 02
12/01/77		10:56	.50	3.92	61	2831	CODF 05
12/01/77		11:00	.08	.60	62	2832	CODF 02
12/01/77		11:05	4.40	.33	63	2833	CODF 02
12/01/77		11:09	3.67	.95	64	2834	CODF 12
12/01/77		11:11	1.05	.82	65	2835	CODF 01
12/01/77		11:18	6.18	.47	66	2836	CODF 02
12/01/77		11:19	.53	.43	67	2837	CODF 01
12/01/77		11:21	1.57	.62	68	2838	CODF 10
12/01/77		11:23	1.38	.63	69	2839	CODF 11
12/01/77		11:27	3.37	.43	70	2840	CODF 02
12/01/77		11:28	.57	1.12	71	2841	CODF 12
12/01/77		11:31	1.88	.27	72	2842	CODF 02
12/01/77		11:33	1.73	.67	73	2843	CODF 01
12/01/77		11:34	.33	.47	74	2844	CODF 02
12/01/77		11:39	4.53	.42	75	2845	CODF 01
12/01/77		11:44	4.58	.32	76	2846	CODF 01
12/01/77		11:46	1.68	.37	77	2847	CODF 02
12/01/77		11:48	1.63	.23	78	2848	CODF 02
12/01/77		12:31	6.77	1.73	79	2849	CODF 02

MODUL 8 = FU7E ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/01/77		12:34	1:27	.62	80	2850	CODF 11
12/01/77		12:40	5:38	.70	81	2851	CODF 02
12/01/77		12:41	.30	.82	82	2852	CODF 12
12/01/77		12:42	.18	1.22	83	2853	CODF 02
12/01/77		12:49	5:78	4.60	84	2854	CODF 13
12/01/77		12:58	4:40	.38	85	2855	CODF 02
12/01/77		13:00	1:62	.90	86	2856	CODF 02
12/01/77		13:01	.10	.28	87	2857	CODF 02
12/01/77		13:02	.72	.42	88	2858	CODF 02
12/01/77		13:04	1:58	.50	89	2859	CODF 11
12/01/77		13:06	1:50	.53	90	2860	CODF 02
12/01/77		13:08	1:47	.22	91	2861	CODF 14
12/01/77		13:09	.78	.33	92	2862	CODF 02
12/01/77		13:10	.67	.83	93	2863	CODF 02
12/01/77		13:12	1:17	.35	94	2864	CODF 02
12/01/77		13:13	.65	.27	95	2865	CODF 02
12/01/77		13:14	.73	.37	96	2866	CODF 02
12/01/77		13:15	.63	.42	97	2867	CODF 14
12/01/77		13:17	1:58	.62	98	2868	CODF 02
12/01/77		13:23	5:38	.25	99	2869	CODF 02
12/01/77		13:26	2:75	1.52	100	2870	CODF 02
12/01/77		13:45	2:48	.30	101	2871	CODF 02
12/01/77		13:49	3:70	.32	102	2872	CODF 02
12/01/77		13:52	2:68	.33	103	2873	CODF 02
12/01/77		13:55	2:67	.40	104	2874	CODF 02
12/01/77		13:57	1:60	1.05	105	2875	CODF 01
12/01/77		13:59	.95	.32	106	2876	CODF 02
12/01/77		14:01	1:68	.37	107	2877	CODF 01
12/01/77		14:03	1:63	.30	108	2878	CODF 02
12/01/77		14:05	1:70	.33	109	2879	CODF 02
12/01/77		14:06	.67	.30	110	2880	CODF 1A
12/01/77		14:08	1:70	.93	111	2881	CODF 02
12/01/77		14:11	2:07	.57	112	2882	CODF 12
12/01/77		14:13	1:43	.33	113	2883	CODF 02
12/01/77		14:14	.67	.82	114	2884	CODF 02
12/01/77		14:19	4:18	.33	115	2885	CODF 02
12/01/77		14:24	4:67	.63	116	2886	CODF 07
12/01/77		14:25	.37	1.22	117	2887	CODF 01
12/01/77		14:27	.78	.43	118	2888	CODF 17
12/01/77		14:28	.57	.70	119	2889	CODF 07

MODULE 8 = FUZF ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		14:31	2:30	.53	120	2890	CONF 18
12/01/77		14:32	.47	.27	121	2891	CONF 14
12/01/77		14:34	1:73	.72	122	2892	CONF 02
12/01/77		14:44	9:28	.27	123	2893	CONF 02
12/01/77		14:45	.73	.22	124	2894	CONF 02
12/01/77		14:49	3:78	.50	125	2895	CONF 02
12/01/77		14:54	4:50	.42	126	2896	CONF 02
12/01/77		14:58	3:58	.57	127	2897	CONF 06
12/01/77		14:59	.43	.18	128	2898	CONF 02
12/01/77		15:01	1:82	.40	129	2899	CONF 02
12/01/77		15:03	1:60	.32	130	2900	CONF 02
12/01/77		15:04	.68	.73	131	2901	CONF 20
END OF SHIFT AT 15:10							
12/02/77	07:27						
12/02/77		07:31	5:27	1:33	132	2902	CONF 19
12/02/77		07:35	2:67	.33	133	2903	CONF 07
12/02/77		07:37	1:67	.70	134	2904	CONF 07
12/02/77		07:41	3:30	.23	135	2905	CONF 02
12/02/77		07:42	.77	.27	136	2906	CONF 02
12/02/77		07:45	2:73	.83	137	2907	CONF 02
12/02/77		07:47	1:17	.57	138	2908	CONF 02
12/02/77		07:49	1:43	.57	139	2909	CONF 02
12/02/77		07:51	1:43	1:35	140	2910	CONF 02
12/02/77		07:54	1:65	.90	141	2911	CONF 02
12/02/77		07:55	.10	.43	142	2912	CONF 02
12/02/77		07:59	3:57	.25	143	2913	CONF 02
12/02/77		08:01	1:75	.25	144	2914	CONF 01
12/02/77		08:02	.75	.52	145	2915	CONF 02
12/02/77		08:03	.48	1:97	146	2916	CONF 02
12/02/77		08:05	.03	3:47	147	2917	CONF 02
12/02/77		08:09	.53	1:40	148	2919	CONF 02
12/02/77		08:11	.60	.42	149	2919	CONF 02
12/02/77		08:13	1:58	.40	150	2920	CONF 02
12/02/77		08:17	3:60	.53	151	2921	CONF 02
12/02/77		08:18	.47	.52	152	2922	CONF 11
12/02/77		08:20	1:48	.50	153	2923	CONF 02
12/02/77		08:21	.50	.43	154	2924	CONF 18
12/02/77		08:23	1:57	.40	155	2925	CONF 20
12/02/77		08:29	5:60	.27	156	2926	CONF 02

MODULE 8 = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		08:31	1.73	.27	157	2927	CODF 02
12/02/77		08:34	2.73	.50	158	2928	CODF 07
12/02/77		08:35	.50	.32	159	2929	CODF 02
12/02/77		08:37	1.68	1.47	160	2930	CODF 07
12/02/77		08:40	1.53	1.70	161	2931	CODF 03
12/02/77		08:43	1.30	.70	162	2932	CODF 11
12/02/77		08:44	.30	.47	163	2933	CODF 02
12/02/77		08:46	1.53	.52	164	2934	CODF 11
12/02/77		08:48	1.48	.25	165	2935	CODF 02
12/02/77		08:50	1.75	.40	166	2936	CODF 02
12/02/77		08:51	.60	.40	167	2937	CODF 14
12/02/77		08:53	1.60	.43	168	2938	CODF 14
12/02/77		08:56	2.57	.82	169	2939	CODF 11
12/02/77		08:59	2.18	.55	170	2940	CODF 01
12/02/77		09:00	.45	.27	171	2941	CODF 02
12/02/77		09:01	.73	.47	172	2942	CODF 02
12/02/77		09:05	3.53	.67	173	2943	CODF 07
12/02/77		09:07	1.33	.52	174	2944	CODF 07
12/02/77		09:13	5.48	.93	175	2945	CODF 02
12/02/77		09:14	.07	.33	176	2946	CODF 02
12/02/77		09:15	.67	.52	177	2947	CODF 07
12/02/77		09:16	.48	.40	178	2948	CODF 02
12/02/77		09:21	4.60	.35	179	2949	CODF 02
12/02/77		09:23	1.65	.53	180	2950	CODF 07
12/02/77		09:24	.47	.35	181	2951	CODF 02
12/02/77		09:47	2.65	.23	182	2952	CODF 02
12/02/77		09:57	9.77	.40	183	2953	CODF 07
12/02/77		09:58	.60	.32	184	2954	CODF 07
12/02/77		10:02	3.68	.33	185	2955	CODF 14
12/02/77		10:06	3.67	1.18	186	2956	CODF 14
12/02/77		10:11	3.82	1.10	187	2957	CODF 11
12/02/77		10:13	.90	1.22	188	2958	CODF 02
12/02/77		10:15	.78	.32	189	2959	CODF 02
12/02/77		10:16	.68	.53	190	2960	CODF 02
12/02/77		10:17	.47	1.83	191	2961	CODF 11
12/02/77		10:19	.17	.23	192	2962	CODF 11
12/02/77		10:20	.77	.53	193	2963	CODF 02
12/02/77		10:21	.47	1.28	194	2964	CODF 14
12/02/77		10:23	.72	.50	195	2965	CODF 14
12/02/77		10:24	.50	.40	196	2966	CODF 02

MODULF A = FUZF ASSEMBLY STATION 9W (CONTD) STATION 30A AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		10:25	.60	1.12	197	2967	CODF 1A
12/02/77		10:27	.88	.92	19A	296A	CODF 11
12/02/77		10:28	.08	.50	199	2969	CODF 02
12/02/77		10:29	.50	.50	200	2970	CODF 02
12/02/77		10:30	.50	.61	201	2971	CODF 02
12/02/77		10:32	1.37	.67	202	2972	CODF 1A
12/02/77		10:35	2.33	.23	203	2973	CODF 07
12/02/77		10:36	.77	.32	204	2974	CODF 02
12/02/77		10:37	.68	.57	205	2975	CODF 01
12/02/77		10:38	.43	.22	206	2976	CODF 02
12/02/77		10:39	.78	.48	207	2977	CODF 02
12/02/77		10:41	1.52	.80	20A	2978	CODF 02
12/02/77		10:42	.20	1.31	209	2979	CODF 03
12/02/77		10:46	2.67	.43	210	29A0	CODF 1A
12/02/77		10:47	.57	2.30	211	29A1	CODF 02
12/02/77		10:50	.70	.63	212	29A2	CODF 02
12/02/77		10:51	.37	.83	213	29A3	CODF 02
12/02/77		10:52	.17	.47	214	29A4	CODF 1A
12/02/77		10:53	.53	.22	215	29A5	CODF 02
12/02/77		10:55	1.78	2.37	216	29A6	CODF 02
12/02/77		10:58	.63	.40	217	29A7	CODF 12
12/02/77		10:59	.60	.53	21A	29A8	CODF 02
12/02/77		11:01	1.47	1.22	219	29A9	CODF 12
12/02/77		11:04	1.78	.35	220	2990	CODF 02
12/02/77		11:05	.65	.45	221	2991	CODF 12
12/02/77		11:08	2.55	.92	222	2992	CODF 12
12/02/77		11:09	.08	.47	223	2993	CODF 12
12/02/77		11:10	.53	2.13	224	2994	CODF 19
12/02/77		11:13	.87	.82	225	2995	CODF 12
12/02/77		11:14	.18	.62	226	2996	CODF 1A
12/02/77		11:16	1.38	2.83	227	2997	CODF 12
12/02/77		11:19	.17	.30	22A	299A	CODF 02
12/02/77		11:22	2.70	3.27	229	2999	CODF 12
12/02/77		11:27	1.73	1.47	230	3000	CODF 12
12/02/77		11:30	1.53	.5A	231	3001	CODF 12
12/02/77		11:31	.42	.72	232	3002	CODF 07
12/02/77		11:35	3.28	.52	233	3003	CODF 02
12/02/77		12:32	13.38	.25	234	3004	CODF 09
12/02/77		12:54	.83	1.07	235	3005	CODF 12
12/02/77		12:56	.93	.53	236	3006	CODF 02

MODULE R = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		12:57	.47	2.25	237	3007	CODF 12
12/02/77		13:00	.75	.40	238	3008	CODF 12
12/02/77		13:01	.60	5.95	239	3009	CODF 12
12/02/77		13:10	3.05	.68	240	3010	CODF 02
12/02/77		13:11	.32	.57	241	3011	CODF 12
12/02/77		13:14	2.43	.57	242	3012	CODF 25
12/02/77		13:15	.43	.60	243	3013	CODF 18
12/02/77		13:19	3.40	.62	244	3014	CODF 18
12/02/77		13:20	.38	.33	245	3015	CODF 02
12/02/77		13:21	.67	.33	246	3016	CODF 18
12/02/77		13:24	2.67	.33	247	3017	CODF 02
12/02/77		13:26	1.67	.28	248	3018	CODF 18
12/02/77		13:27	.72	.30	249	3019	CODF 05
12/02/77		13:45	17.57	.27	250	3020	CODF 14
12/02/77		13:47	1.73	.37	251	3021	CODF 02
12/02/77		13:48	.63	.58	252	3022	CODF 05
12/02/77		13:49	.42	.47	253	3023	CODF 18
12/02/77		13:51	1.53	.57	254	3024	CODF 05
12/02/77		13:55	3.43	.25	255	3025	CODF 06
12/02/77		14:00	4.75	.55	256	3026	CODF 02
12/02/77		14:02	1.45	.32	257	3027	CODF 02
12/02/77		14:04	1.68	.37	258	3028	CODF 18
12/02/77		14:05	.63	1.07	259	3029	CODF 18
12/02/77		14:07	.93	.42	260	3030	CODF 02
12/02/77		14:10	2.58	.90	261	3031	CODF 02
12/02/77		14:12	1.10	.40	262	3032	CODF 02
12/02/77		14:13	.60	.28	263	3033	CODF 02
12/02/77		14:14	.72	.33	264	3034	CODF 02
12/02/77		14:15	.67	.30	265	3035	CODF 02
12/02/77		14:16	.70	.33	266	3036	CODF 02
12/02/77		14:17	.67	.61	267	3037	CODF 02
12/02/77		14:18	.37	.45	268	3038	CODF 02
12/02/77		14:20	1.55	.32	269	3039	CODF 02
12/02/77		14:22	1.68	.20	270	3040	CODF 06
12/02/77		14:23	.80	.50	271	3041	CODF 18
12/02/77		14:25	1.50	.27	272	3042	CODF 02
12/02/77		14:26	.73	.28	273	3043	CODF 02
12/02/77		14:28	1.72	.40	274	3044	CODF 02
12/02/77		14:29	.60	.65	275	3045	CODF 02
12/02/77		14:30	.35	.50	276	3046	CODF 02

MODULE R = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		14:31	.50	.31	277	3047	CODF 02
12/02/77		14:33	1.67	.30	278	3048	CODF 06
12/02/77		14:34	.70	2.32	279	3049	CODF 02
12/02/77		14:37	.68	.47	280	3050	CODF 02
12/02/77		14:38	.53	.58	281	3051	CODF 07
12/02/77		14:41	2.42	.82	282	3052	CODF 1A
12/02/77		14:42	.18	.68	283	3053	CODF 02
12/02/77		14:46	3.32	.43	284	3054	CODF 1A
12/02/77		14:48	1.57	.30	285	3055	CODF 06
12/02/77		14:49	.70	1.42	286	3056	CODF 06
12/02/77		14:52	1.58	1.93	287	3057	CODF 1A
12/02/77		14:55	1.07	.47	288	3058	CODF 02
12/02/77		14:57	1.53	1.05	289	3059	CODF 1A
12/02/77		14:59	.95	.87	290	3060	CODF 02
12/02/77		15:02	2.13	.40	291	3061	CODF 1A
12/02/77		15:03	.60	.33	292	3062	CODF 1A
12/02/77		15:07	3.67	.33	293	3063	CODF 02
12/02/77							
12/06/77	07:27						
12/06/77		07:32	7.67	7.08	294	3064	CODF 16
12/06/77		07:47	7.38	.47	295	3065	CODF 02
12/06/77		07:48	.53	.72	296	3066	CODF 13
12/06/77		07:54	5.28	.32	297	3067	CODF 02
12/06/77		07:56	1.68	1.20	298	3068	CODF 14
12/06/77		07:58	.80	1.03	299	3069	CODF 02
12/06/77		08:02	2.97	.65	300	3070	CODF 11
12/06/77		08:03	.35	.28	301	3071	CODF 02
12/06/77		08:15	11.72	.48	302	3072	CODF 12
12/06/77		08:19	3.52	2.07	303	3073	CODF 11
12/06/77		08:22	.93	.53	304	3074	CODF 02
12/06/77		08:23	.47	.67	305	3075	CODF 11
12/06/77		08:26	2.33	1.93	306	3076	CODF 13
12/06/77		08:28	.07	1.68	307	3077	CODF 13
12/06/77		08:33	3.32	.23	308	3078	CODF 02
12/06/77		08:34	.77	.67	309	3079	CODF 02
12/06/77		08:35	.33	.83	310	3080	CODF 02
12/06/77		08:36	.17	.68	311	3081	CODF 02
12/06/77		08:38	1.32	.25	312	3082	CODF 14
12/06/77		08:40	1.75	.45	313	3083	CODF 02

MODULE R = FU7F ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

OATF	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77	08:41	08:41	.55	9.42	314	3084	CODF 25
12/06/77	08:52	08:52	1.58	.43	315	3085	CODF 11
12/06/77	08:55	08:55	2.57	.37	316	3086	CODF 02
12/06/77	09:07	09:07	2.38	.53	317	3087	CODF 10
12/06/77	09:14	09:14	6.47	.52	318	3088	CODF 14
12/06/77	09:15	09:15	.48	.88	319	3089	CODF 12
12/06/77	09:18	09:18	2.12	.17	320	3090	CODF 14
12/06/77	09:20	09:20	1.83	.85	321	3091	CODF 10
12/06/77	09:48	09:48	12.15	2.48	322	3092	HUNG DIE CENTER
12/06/77	09:51	09:51	.52	.42	323	3093	CODF 10
12/06/77	09:53	09:53	1.58	4.47	324	3094	CODF 13
12/06/77	09:58	09:58	.53	.18	325	3095	CODF 02
12/06/77	10:00	10:00	1.82	.50	326	3096	CODF 14
12/06/77	10:02	10:02	1.50	.87	327	3097	CODF 12
12/06/77	10:05	10:05	2.13	.50	328	3098	CODF 14
12/06/77	10:09	10:09	3.50	2.57	329	3099	CODF 02
12/06/77	10:12	10:12	.43	.51	330	3100	CODF 02
12/06/77	10:13	10:13	.47	.37	331	3101	CODF 02
12/06/77	10:19	10:19	5.63	.27	332	3102	CODF 02
12/06/77	10:20	10:20	.73	.33	333	3103	CODF 02
12/06/77	10:22	10:22	1.67	.62	334	3104	CODF 10
12/06/77	10:29	10:29	6.38	2.07	335	3105	CODF 12
12/06/77	10:36	10:36	4.93	.28	336	3106	CODF 02
12/06/77	10:37	10:37	.72	1.23	337	3107	CODF 02
12/06/77	10:39	10:39	.77	.50	338	3108	CODF 11
12/06/77	10:40	10:40	.50	.23	339	3109	CODF 02
12/06/77	10:42	10:42	1.77	.35	340	3110	CODF 02
12/06/77	10:43	10:43	.65	.33	341	3111	CODF 02
12/06/77	10:44	10:44	.67	.50	342	3112	CODF 02
12/06/77	10:46	10:46	1.50	.43	343	3113	CODF 01
12/06/77	10:47	10:47	.57	.92	344	3114	CODF 02
12/06/77	10:53	10:53	5.08	.92	345	3115	CODF 02
12/06/77	10:56	10:56	2.08	.58	346	3116	CODF 02
12/06/77	10:58	10:58	1.42	.47	347	3117	CODF 02
12/06/77	10:59	10:59	.53	.32	348	3118	CODF 02
12/06/77	11:04	11:04	4.68	.52	349	3119	CODF 14
12/06/77	11:07	11:07	2.48	.43	350	3120	CODF 14
12/06/77	11:08	11:08	.57	.27	351	3121	CODF 02
12/06/77	11:09	11:09	.73	.40	352	3122	CODF 02
12/06/77	11:10	11:10	.60	13.18	353	3123	CODF 16

MODULE 8 = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/06/77		11:25	1.82	.97	354	3124	CODF 12
12/06/77		11:28	2.03	.62	355	3125	CODF 02
12/06/77		11:29	.38	.58	356	3126	CODF 18
12/06/77		11:30	.42	.48	357	3127	CODF 02
12/06/77		11:31	.52	1.28	358	3128	CODF 07
12/06/77		11:36	3.72	.50	359	3129	CODF 02
12/06/77		11:38	4.15	1.85	360	3130	CODF 02
12/06/77		11:44	4.15	.77	361	3131	CODF 12
12/06/77		11:47	2.23	.35	362	3132	CODF 14
12/06/77		12:30	7.65	2.25	363	3133	CODF 24
12/06/77		12:33	.75	.63	364	3134	CODF 12
12/06/77		12:36	2.37	.17	365	3135	CODF 25
12/06/77		12:41	4.83	.48	366	3136	CODF 14
12/06/77		12:43	1.52	.43	367	3137	CODF 25
12/06/77		12:44	.57	1.52	368	3138	CODF 12
12/06/77		12:46	.48	2.17	369	3139	HANG UP
12/06/77		12:49	.83	.43	370	3140	CODF 07
12/06/77		12:56	6.57	1.32	371	3141	CODF 25
12/06/77		12:59	1.68	.33	372	3142	CODF 14
12/06/77		13:00	.67	1.08	373	3143	CODF 14
12/06/77		13:02	.92	1.27	374	3144	CODF 14
12/06/77		13:04	.73	.82	375	3145	CODF 11
12/06/77		13:05	.18	1.00	376	3146	CODF 02
12/06/77		13:06	0.00	.63	377	3147	CODF 11
12/06/77		13:08	1.37	1.22	378	3148	CODF 18
12/06/77		13:17	3.98	.43	379	3149	CODF 25
12/06/77		13:19	1.57	6.50	380	3150	CODF 22
12/06/77		13:26	.50	.28	381	3151	CODF 02
12/06/77		13:48	6.72	.58	382	3152	CODF 01
12/06/77		13:49	.42	5.60	383	3153	CODF 16
12/06/77		13:57	2.40	.37	384	3154	CODF 12
12/06/77		13:59	1.63	.32	385	3155	CODF 12
12/06/77		14:01	1.68	1.80	386	3156	CODF 02
12/06/77		14:04	1.20	.95	387	3157	CODF 06
12/06/77		14:06	1.05	.43	388	3158	CODF 12
12/06/77		14:09	2.57	2.80	389	3159	CODF 12
12/06/77		14:14	2.20	2.27	390	3160	CODF 12
12/06/77		14:18	1.73	.37	391	3161	CODF 11
12/06/77		14:19	.63	.27	392	3162	CODF 14
12/06/77		14:21	1.73	2.77	393	3163	CODF 09

ON DIE CENTER

MODULE R = FUZF ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START TUP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODE
12/06/77		14:26	2.23	2.27	394	3164	3164	CODEF 09
12/06/77		14:29	.73	.47	395	3165	3165	CODEF 11
12/06/77		14:30	.53	1.33	396	3166	3166	HUNG DIF CENTER
12/06/77		14:32	.67	1.20	397	3167	3167	CODEF 07
12/06/77		14:35	1.80	1.17	398	3168	3168	CODEF 02
12/06/77		14:37	.83	.67	399	3169	3169	CODEF 11
12/06/77		14:41	3.33	.50	400	3170	3170	CODEF 14
12/06/77		14:43	1.50	.63	401	3171	3171	CODEF 07
12/06/77		14:46	2.37	.77	402	3172	3172	CODEF 12
12/06/77		14:50	3.23	.62	403	3173	3173	CODEF 12
12/06/77		15:05	14.38	.62	404	3174	3174	CODEF 12
END OF SHIFT AT 15:06								
12/14/77	07:30							
12/14/77		07:33	2.17	.25	405	3175	3175	CODEF 06
12/14/77		07:34	.75	.13	406	3176	3176	CODEF 11
12/14/77		07:35	.87	.22	407	3177	3177	CODEF 06
12/14/77		07:36	.78	.20	408	3178	3178	CODEF 06
12/14/77		07:41	4.80	.38	409	3179	3179	CODEF 01
12/14/77		07:45	3.62	.37	410	3180	3180	CODEF 1A
12/14/77		07:51	5.63	.22	411	3181	3181	CODEF 06
12/14/77		07:54	2.78	.65	412	3182	3182	CODEF 06
12/14/77		07:56	1.35	.53	413	3183	3183	CODEF 06
12/14/77		07:58	1.47	.38	414	3184	3184	CODEF 06
12/14/77		07:59	.62	.35	415	3185	3185	CODEF 06
12/14/77		08:01	1.65	.43	416	3186	3186	CODEF 14
12/14/77		08:03	1.57	.37	417	3187	3187	CODEF 14
12/14/77		08:05	1.67	.48	418	3188	3188	CODEF 02
12/14/77		08:08	2.52	.32	419	3189	3189	CODEF 02
12/14/77		08:09	.68	.67	420	3190	3190	CODEF 02
12/14/77		08:11	1.33	.35	421	3191	3191	CODEF 02
12/14/77		08:12	.65	.43	422	3192	3192	CODEF 06
12/14/77		08:15	2.57	.50	423	3193	3193	CODEF 1A
12/14/77		08:20	4.50	.45	424	3194	3194	CODEF 1A
12/14/77		08:24	3.55	.43	425	3195	3195	CODEF 01
12/14/77		08:25	.57	.98	426	3196	3196	CODEF 1A
12/14/77		08:26	.02	.48	427	3197	3197	CODEF 02
12/14/77		08:27	.52	.53	428	3198	3198	CODEF 02
12/14/77		08:30	2.47	.37	429	3199	3199	CODEF 1A
12/14/77		08:33	2.63	.37	430	3200	3200	CODEF 10

MOOULF 8 = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MOOULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOUF
12/14/77	08:35		1.63	.32	431	3201	COOF 14
12/14/77	08:40		4.68	.72	432	3202	COOF 07
12/14/77	08:44		3.28	.53	433	3203	COOF 01
12/14/77	08:47		2.47	.35	434	3204	COOF 1A
12/14/77	08:49		1.65	.72	435	3205	COOF 12
12/14/77	08:53		3.28	.50	436	3206	COOF 01
12/14/77	08:56		2.50	.42	437	3207	COOF 11
12/14/77	08:57		.58	.43	438	3208	COOF 1A
12/14/77	08:58		.57	.63	439	3209	COOF 1A
12/14/77	09:01		2.37	1.00	440	3210	COOF 1A
12/14/77	09:02		0.00	.72	441	3211	COOF 1A
12/14/77	09:04		1.28	1.32	442	3212	COOF 12
12/14/77	09:06		.68	1.25	443	3213	COOF 1A
12/14/77	09:10		2.75	.83	444	3214	COOE 18
12/14/77	09:11		.17	.82	445	3215	COOF 02
12/14/77	09:13		1.18	.57	446	3216	COOF 1A
12/14/77	09:16		2.43	.78	447	3217	COOF 02
12/14/77	09:18		1.22	.48	448	3218	COOF 11
12/14/77	09:20		1.52	.38	449	3219	COOF 14
12/14/77	09:21		.62	.42	450	3220	COOF 02
12/14/77	09:25		3.58	.35	451	3221	COOF 1A
12/14/77	09:46		5.65	.83	452	3222	COOF 20
12/14/77	09:47		.17	1.07	453	3223	COOF 02
12/14/77	09:55		6.93	.98	454	3224	COOF 1A
12/14/77	09:57		1.02	.37	455	3225	COOF 1A
12/14/77	09:58		.63	.67	456	3226	COOF 02
12/14/77	09:59		.33	.82	457	3227	COOF 13
12/14/77	10:00		.18	.78	458	3228	COOF 13
12/14/77	10:01		.22	.40	459	3229	COOF 13
12/14/77	10:03		1.60	.43	460	3230	COOF 06
12/14/77	10:04		.57	.40	461	3231	COOF 1A
12/14/77	10:07		2.60	.33	462	3232	COOF 1A
12/14/77	10:09		1.67	.37	463	3233	COOF 1A
12/14/77	10:11		1.63	1.18	464	3234	COOF 07
12/14/77	10:13		.82	.18	465	3235	COOF 1A
12/14/77	10:14		.82	.40	466	3236	COOF 14
12/14/77	10:18		3.60	.43	467	3237	COOF 1A
12/14/77	10:22		3.57	.25	468	3238	COOF 02
12/14/77	10:24		1.75	.32	469	3239	COOF 02
12/14/77	10:25		.68	.37	470	3240	COOF 1A

MODULE 8 = FU7E ASSEMBLY STATION 9W (CONTO) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77		10:27	1.63	.62	471	3241	COOF 04
12/14/77		10:30	2.38	.30	472	3242	COOF 18
12/14/77		10:34	3.70	2.97	473	3243	COOF 02
12/14/77		10:37	.03	2.20	474	3244	COOF 13
12/14/77		10:46	6.80	.13	475	3245	COOF 06
12/14/77		10:47	.87	.25	476	3246	COOF 06
12/14/77		10:50	2.75	.52	477	3247	COOF 18
12/14/77		10:51	.48	1.57	478	3248	COOF 10
12/14/77		10:55	2.43	.28	479	3249	COOF 02
12/14/77		10:56	.72	.31	480	3250	COOF 02
12/14/77		11:02	5.67	.70	481	3251	COOF 02
12/14/77		11:04	1.30	.28	482	3252	COOF 01
12/14/77		11:07	2.72	.47	483	3253	COOF 18
12/14/77		11:09	1.53	.98	484	3254	COOF 03
12/14/77		11:11	1.02	.30	485	3255	COOF 14
12/14/77		11:14	2.70	.31	486	3256	COOF 18
12/14/77		11:20	5.67	.37	487	3257	COOF 18
12/14/77		11:23	2.63	.37	488	3258	COOF 11
12/14/77		11:27	3.63	.67	489	3259	COOF 02
12/14/77		11:28	.33	.43	490	3260	COOF 18
12/14/77		11:30	1.57	.40	491	3261	COOF 18
12/14/77		11:34	3.60	.40	492	3262	COOF 11
12/14/77		11:39	4.60	1.27	493	3263	COOF 12
12/14/77		11:43	2.73	.27	494	3264	COOF 01
12/14/77		11:44	.73	.37	495	3265	COOF 18
12/14/77		11:47	2.63	.35	496	3266	COOF 14
12/14/77		12:34	16.65	.13	497	3267	COOF 01
12/14/77		12:40	5.87	.37	498	3268	COOF 18
12/14/77		12:41	.63	.43	499	3269	COOF 03
12/14/77		12:42	.57	.78	500	3270	COOF 02
12/14/77		12:43	.22	.35	501	3271	COOF 02
12/14/77		12:44	.65	.27	502	3272	COOF 18
12/14/77		12:50	5.73	.28	503	3273	COOF 14
12/14/77		12:52	1.72	.47	504	3274	COOF 02
12/14/77		12:53	.53	.58	505	3275	COOF 18
12/14/77		12:56	2.42	.48	506	3276	COOF 18
12/14/77		12:57	.52	1.10	507	3277	COOF 13
12/14/77		12:59	.90	.22	508	3278	COOF 01
12/14/77		13:06	6.78	.40	509	3279	COOF 18
12/14/77		13:13	6.60	.47	510	3280	COOF 01

MODULE A = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOUF
12/14/77		13:15	1.53	.32	511	3291	COOF 1A
12/14/77		13:19	3.68	.2A	512	3292	COOF 1A
12/14/77		13:20	.72	.8A	513	3293	COOF 04
12/14/77		13:21	.12	.65	514	3294	COOF 01
12/14/77		13:22	.35	.5A	515	3295	COOF 04
12/14/77		13:23	.42	.27	516	3296	COOF 05
12/14/77		13:25	1.73	.9A	517	3297	COOF 14
12/14/77		13:26	.02	.2A	51A	3298	COOF 02
12/14/77		13:27	.72	1.67	519	3299	COOF 20
12/14/77		13:50	6.37	.2A	520	3290	COOF 01
12/14/77		13:51	.72	.40	521	3291	COOF 1A
12/14/77		13:56	4.60	.43	522	3292	COOF 02
12/14/77		13:57	.57	.31	523	3293	COOF 1A
12/14/77		13:59	1.67	.35	524	3294	COOF 02
12/14/77		14:06	6.65	.32	525	3295	COOF 1A
12/14/77		14:11	4.68	.35	526	3296	COOF 1A
12/14/77		14:21	9.65	.53	527	3297	COOF 02
12/14/77		14:2A	6.47	.2A	52A	329A	COOF 02
12/14/77		14:29	.72	.27	529	3299	COOF 02
12/14/77		14:32	2.73	.20	530	3300	CODE 14
12/14/77		14:37	4.80	.40	531	3301	COOF 02
12/14/77		14:3A	.60	.6A	532	3302	COOF 06
12/14/77		14:39	.32	.27	533	3303	COOF 03
12/14/77		14:42	2.73	.13	534	3304	COOF 1A
12/14/77		14:44	1.87	.1A	535	3305	COOF 1A
12/14/77		14:50	5.82	.60	536	3306	COOF 02
12/14/77		14:53	2.40	1.75	537	3307	COOF 02
12/14/77		14:55	.25	1.32	53A	330A	COOF 02
12/14/77		14:57	.68	1.05	539	3309	COOF 02
12/14/77		15:01	2.95	.17	540	3310	COOF 1A
12/14/77		15:04	2.83	1.10	541	3311	COOF 13
12/14/77		15:06	.90	.20	542	3312	COOF 1A
12/14/77		15:07	.80	1.32	543	3313	COOF 12
----- ENO OF SHIFT AT 15:15 -----							
12/15/77	07:30	07:37	13.68	1.82	544	3314	COOF 06
12/15/77		07:39	.18	.2A	545	3315	COOF 14
12/15/77		07:40	.72	1.20	546	3316	COOF 11
12/15/77		07:42	.80	.31	547	3317	COOF 13

MODULE 8 = FU7E ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/15/77		07:43	.67	.43	548	3318	COOF 1A
12/15/77		07:45	1.57	1.1A	549	3319	COOF 1A
12/15/77		07:48	1.82	1.87	550	3320	COOF 1A
12/15/77		07:53	3.13	1.32	551	3321	COOF 02
12/15/77		07:55	.68	.82	552	3322	COOF 20
12/15/77		0A:01	5.18	.75	553	3323	COOF 03
12/15/77		0A:05	3.25	.52	554	3324	COOF 1A
12/15/77		0A:10	1.27	1.00	555	3325	COOF 06
12/15/77		0A:11	0.00	1.8A	556	3326	COOF 11
12/15/77		0A:14	1.12	1.53	557	3327	COOF 11
12/15/77		0A:18	2.47	.6A	558	3328	COOF 07
12/15/77		0A:28	9.32	.33	559	3329	COOF 1A
12/15/77		0A:36	7.67	1.43	560	3330	COOF 1A
12/15/77		0A:3A	.57	1.72	561	3331	COOF 02
12/15/77		0A:41	1.28	9.50	562	3332	COOF 12
12/15/77		0A:51	.50	.25	563	3333	COOF 02
12/15/77		0A:53	1.75	.9A	564	3334	COOF 1A
12/15/77		0A:55	1.02	1.22	565	3335	COOF 20
12/15/77		0A:59	2.78	.37	566	3336	COOF 11
12/15/77		09:04	4.63	.37	567	3337	COOF 1A
12/15/77		09:06	1.63	.6A	568	3338	COOF 1A
12/15/77		09:07	.32	.40	569	3339	COOF 02
12/15/77		09:10	2.60	.6A	570	3340	COOF 1A
12/15/77		09:11	.32	.42	571	3341	COOF 02
12/15/77		09:14	2.58	.67	572	3342	COOF 02
12/15/77		09:15	.33	.20	573	3343	COOF 02
12/15/77		09:19	3.80	.57	574	3344	COOF 1A
12/15/77		09:24	4.43	.5A	575	3345	COOF 1A
12/15/77		09:50	10.42	.53	576	3346	COOF 06
12/15/77		09:51	.47	.83	577	3347	COOF 06
12/15/77		09:53	1.17	1.6A	578	3348	COOF 1A
12/15/77		09:5A	3.32	.93	579	3349	COOF 1A
12/15/77		10:00	1.07	.30	580	3350	COOF 02
12/15/77		10:03	2.70	.20	581	3351	COOF 02
12/15/77		10:13	9.80	.6A	582	3352	COOF 02
12/15/77		10:25	7.82	.25	583	3353	COOF 01
12/15/77		10:26	.75	1.2A	584	3354	COOF 20
12/15/77		10:2A	.72	.62	585	3355	COOF 1A
12/15/77		10:30	1.38	.43	586	3356	COOF 06
12/15/77		10:33	2.57	.57	587	3357	COOF 1A

MODULE R = FU7E ASSEMBLY STATION 9W (CONTD) STATION 30R AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		10:38	4.43	.62	588	335A	COOF 06
12/15/77		10:39	.38	.28	589	3359	COOF 01
12/15/77		10:41	1.72	3.27	590	3360	COOF 09
12/15/77		10:50	5.73	.37	591	3361	COOF 02
12/15/77		11:02	5.63	.35	592	3362	COOF 1A
12/15/77		11:06	3.65	.47	593	3363	COOF 1A
12/15/77		11:08	1.53	.43	594	3364	COOF 1A
12/15/77		11:12	3.57	.67	595	3365	COOF 1A
12/15/77		11:15	2.33	.42	596	3366	COOF 11
12/15/77		11:17	1.58	5.32	597	3367	MECHANICAL FAILURE
12/15/77		11:24	1.68	1.80	598	3368	COOF 02
12/15/77		11:26	.20	.20	599	3369	COOF 02
12/15/77		11:27	.80	2.27	600	3370	COOF 12
12/15/77		11:30	.73	.58	601	3371	COOF 18
12/15/77		11:36	5.42	1.13	602	3372	COOF 12
12/15/77		11:38	.87	1.08	603	3373	COOF 18
12/15/77		11:42	2.92	.41	604	3374	COOF 01
12/15/77		11:51	8.57	.50	605	3375	COOF 03
12/15/77		11:52	.50	.22	606	3376	COOF 02
12/15/77		12:39	16.78	.25	607	3377	COOF 02
12/15/77		12:44	4.75	.31	608	3378	COOF 11
12/15/77		12:46	1.67	1.17	609	3379	COOF 03
12/15/77		12:48	.83	.27	610	3380	COOF 02
12/15/77		12:49	.73	5.48	611	3381	COOF 22
12/15/77		12:55	.52	.43	612	3382	COOF 02
12/15/77		12:58	2.57	1.42	613	3383	COOF 20
12/15/77		13:02	2.58	.50	614	3384	COOF 1A
12/15/77		13:04	1.50	.72	615	3385	COOF 02
12/15/77		13:06	1.28	1.13	616	3386	COOF 02
12/15/77		13:08	.87	2.58	617	3387	COOF 09
12/15/77		13:11	.42	.28	618	3388	COOF 11
12/15/77		13:16	4.72	.43	619	3389	COOF 11
12/15/77		13:20	3.57	.40	620	3390	COOF 1A
12/15/77		13:23	2.60	.37	621	3391	COOF 11
12/15/77		13:45	6.63	.37	622	3392	COOF 11
12/15/77		13:52	6.63	.30	623	3393	COOF 02
12/15/77		13:53	.70	.40	624	3394	COOF 01
12/15/77		13:58	4.60	.40	625	3395	COOF 02
12/15/77		14:10	11.60	2.50	626	3396	COOF 20
12/15/77		14:14	1.50	.42	627	3397	COOF 11

MODULF R = FUZE ASSEMBLY STATION 9W (CONTD) STATION 308 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILUREF	MODF
12/15/77		14:17	2.58	.42	62R	3398	CODE 11	
12/15/77		14:18	.58	.2R	629	3399	CODE 11	
12/15/77		14:19	.72	.43	630	3400	CODE 1R	
12/15/77		14:31	11.57	.43	631	3401	CODE 02	
12/15/77		14:34	2.57	.50	632	3402	CODE 1R	
12/15/77		14:39	4.50	.40	633	3403	CODE 06	
12/15/77		14:43	3.60	.42	634	3404	CODE 11	
12/15/77		14:46	2.58	1.57	635	3405	CODE 06	
12/15/77		14:55	7.43	.40	636	3406	CODE 06	
12/15/77		14:59	3.60	.13	637	3407	CODE 06	
12/15/77		15:00	.87	.15	638	3408	CODE 06	
12/15/77		15:01	.85	2.5R	639	3409	CODE 0R	
12/15/77		15:04	.42	.5R	640	3410	CODE 02	
12/15/77		15:05	.42	.63	641	3411	CODE 02	
12/15/77		15:06	.37	.43	642	3412	CODE 02	

END OF SHIFT AT 15:15

STATION 309 AT LSAAP

MODUL F 9 = FU7F ASSEMBLY STATION 10F

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/30/77	07:30	07:49	19.00	.50	1	3413	COOF 1A
11/30/77		07:56	6.50	.40	2	3414	COOF 1A
11/30/77		07:58	1.60	.28	3	3415	COOF 02
11/30/77		08:07	4.72	.50	4	3416	COOF 02
11/30/77		08:13	9.50	.52	5	3417	COOF 25
11/30/77		08:16	2.48	.28	6	3418	COOF 1A
11/30/77		08:18	1.72	1.00	7	3419	COOF 01
11/30/77		08:22	3.00	.68	8	3420	COOF 25
11/30/77		08:24	1.32	.58	9	3421	COOF 12
11/30/77		08:26	1.42	1.00	10	3422	COOF 12
11/30/77		08:30	3.00	.28	11	3423	COOF 24
11/30/77		08:39	8.72	.33	12	3424	COOF 24
11/30/77		08:42	2.67	.75	13	3425	COOF 1A
11/30/77		08:44	1.25	.28	14	3426	COOF 12
11/30/77		08:50	5.72	.28	15	3427	COOF 24
11/30/77		08:59	8.72	.68	16	3428	COOF 12
11/30/77		09:05	5.32	1.80	17	3429	COOF 12
11/30/77		09:09	2.20	.58	18	3430	COOF 1A
11/30/77		09:11	1.42	3.10	19	3431	COOF 1A
11/30/77		09:17	2.90	.33	20	3432	COOF 1A
11/30/77		09:19	1.67	1.07	21	3433	COOF 04
11/30/77		09:22	1.93	3.75	22	3434	1.00SF MAGNFT
11/30/77		09:26	.25	1.33	23	3435	COOF 29
11/30/77		09:54	3.67	.33	24	3436	COOF 24
11/30/77		10:07	12.67	.43	25	3437	COOF 24
11/30/77		10:13	5.57	1.42	26	3438	COOF 2A
11/30/77		10:16	1.58	.80	27	3439	COOF 24
11/30/77		10:22	5.20	.53	28	3440	COOF 24
11/30/77		10:32	9.47	.28	29	3441	COOF 24
11/30/77		10:39	6.72	.33	30	3442	COOF 24
11/30/77		10:51	11.67	.28	31	3443	COOF 12
11/30/77		11:00	8.72	.62	32	3444	COOF 1A
11/30/77		11:25	24.38	.80	33	3445	COOF 1A
11/30/77		11:30	4.20	.40	34	3446	COOF 12
11/30/77		12:50	37.60	.88	35	3447	COOF 12
11/30/77		13:05	14.12	.33	36	3448	COOF 24
11/30/77		13:11	5.67	1.00	37	3449	COOF 04
11/30/77		13:14	2.00	.88	38	3450	COOF 12
11/30/77		13:54	18.12	.50	39	3451	COOF 12

MODULF 9 = FI17F ASSEMBLY STATION 10E (CONTD) STATION 309 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBR	FAILURE NUMBR	SYSTEM FAILURE NUMBR	FAILURE MOOF
11/30/77	13:57	2:50	.20	40	3452			CODE 24
11/30/77	14:15	17.80	.40	41	3453			CODE 24
11/30/77	14:35	19.60	.50	42	3454			CODE 24
11/30/77	15:02	26.50	.43	43	3455			CODE 24
11/30/77	15:05	2.57	.53	44	3456			CODE 12
END OF SHIFT AT 15:15								
12/01/77	07:30							
12/01/77	07:35	14.47	.83	45	3457			CODE 12
12/01/77	07:37	1.17	.33	46	3458			CODE 24
12/01/77	07:43	5.67	.40	47	3459			CODE 12
12/01/77	07:53	9.60	.40	48	3460			CODE 25
12/01/77	08:03	9.60	.33	49	3461			CODE 02
12/01/77	08:10	6.67	2.63	50	3462			CODE 25
12/01/77	08:16	3.37	.40	51	3463			CODE 24
12/01/77	08:18	1.60	2.20	52	3464			CODE 12
12/01/77	08:40	19.80	.40	53	3465			CODE 24
12/01/77	08:44	3.60	.40	54	3466			CODE 24
12/01/77	08:48	3.60	.43	55	3467			CODE 24
12/01/77	08:54	5.57	.40	56	3468			CODE 24
12/01/77	08:56	1.60	2.28	57	3469			CODE 24
12/01/77	09:00	1.72	1.00	58	3470			CODE 29
12/01/77	09:11	10.00	.80	59	3471			CODE 12
12/01/77	09:15	3.20	.40	60	3472			CODE 06
12/01/77	09:20	4.60	.37	61	3473			CODE 02
12/01/77	09:23	2.63	.33	62	3474			CODE 12
12/01/77	09:26	2.67	.58	63	3475			CODE 12
12/01/77	10:04	16.42	.40	64	3476			CODE 24
12/01/77	10:12	7.60	.33	65	3477			CODE 24
12/01/77	10:18	5.67	.40	66	3478			CODE 03
12/01/77	10:22	3.60	.33	67	3479			CODE 24
12/01/77	10:26	3.67	.28	68	3480			CODE 12
12/01/77	10:43	16.72	.40	69	3481			CODE 02
12/01/77	10:45	1.60	.58	70	3482			CODE 12
12/01/77	10:47	1.42	5.28	71	3483			CODE 12
12/01/77	11:05	12.72	.40	72	3484			CODE 01
12/01/77	11:07	1.60	.28	73	3485			CODE 24
12/01/77	11:35	27.72	.50	74	3486			CODE 12
12/01/77	11:43	7.50	.58	75	3487			CODE 12
12/01/77	12:40	16.42	.33	76	3488			CODE 14

MODULE 9 = FU7F ASSEMBLY STATION 10E (CONTD) STATION 309 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/01/77		17:51	10.67	1.40	77	3489	CODF 03
12/01/77		12:54	1.60	.50	78	3490	CODF 29
12/01/77		12:56	1.50	.50	79	3491	CODF 24
12/01/77		13:15	18.50	.5A	80	3492	CODF 12
12/01/77		13:18	2.42	1.10	81	3493	CODF 12
END OF SHIFT AT 13:45							
12/02/77	07:30						
12/02/77		07:40	20.90	1.88	82	3494	CLEAN OF STATION
12/02/77		07:48	6.12	.5A	83	3495	CODF 24
12/02/77		07:52	3.42	.80	84	3496	CODF 24
12/02/77		07:54	1.20	1.5A	85	3497	CODF 02
12/02/77		08:03	7.42	.5A	86	3498	CODF 24
12/02/77		08:07	3.42	.40	87	3499	CODF 24
12/02/77		08:10	2.60	.43	88	3500	CODF 02
12/02/77		08:12	1.57	.73	89	3501	CODF 01
12/02/77		08:15	2.27	1.40	90	3502	CODF 02
12/02/77		08:18	1.60	1.50	91	3503	CODF 02
12/02/77		08:33	13.50	.42	92	3504	CODF 24
12/02/77		08:37	3.58	.92	93	3505	CODF 01
12/02/77		08:50	12.08	1.00	94	3506	CODF 12
12/02/77		08:57	6.00	.50	95	3507	CODF 24
12/02/77		09:00	2.50	1.00	96	3508	CODF 02
12/02/77		09:04	3.00	.75	97	3509	CODF 24
12/02/77		09:06	1.25	.53	9A	3510	CODF 24
12/02/77		09:16	9.47	1.40	99	3511	CODF 25
12/02/77		09:18	.60	.50	100	3512	CODF 24
12/02/77		09:24	5.50	.40	101	3513	CODF 24
12/02/77		09:54	9.60	.82	102	3514	CODF 12
12/02/77		10:01	6.18	1.00	103	3515	CODF 18
12/02/77		10:05	3.00	.50	104	3516	CODF 24
12/02/77		10:09	3.50	.6A	105	3517	CODF 24
12/02/77		10:17	7.32	1.40	106	3518	CODF 12
12/02/77		10:26	7.60	.50	107	3519	CODF 24
12/02/77		10:28	1.50	.33	10A	3520	CODF 24
12/02/77		10:42	13.67	.53	109	3521	CODF 24
12/02/77		11:03	20.47	.83	110	3522	CODF 12
12/02/77		11:18	14.17	.5A	111	3523	CODF 26
12/02/77		11:21	2.42	.43	112	3524	CODF 24
12/02/77		11:26	4.57	.6A	113	3525	CODF 25

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		11:29	2.32	.70	114	3526	CODF 12
12/02/77		11:48	18.30	.50	115	3527	CODF 24
12/02/77		12:35	6.50	.83	116	3528	CODF 18
12/02/77		12:41	5.17	.50	117	3529	CODF 24
12/02/77		12:45	3.50	1.00	118	3530	CODF 03
12/02/77		13:03	17.00	.55	119	3531	CODF 24
12/02/77		13:19	15.45	.43	120	3532	CODF 24
12/02/77		13:52	11.57	.75	121	3533	CODF 12
12/02/77		14:02	9.25	.87	122	3534	CODF 12
12/02/77		14:10	7.13	.83	123	3535	CODF 26
12/02/77		14:16	5.17	.50	124	3536	CODF 24
12/02/77		14:20	3.50	.72	125	3537	CODF 24
12/02/77		14:24	3.28	.68	126	3538	CODF 12
12/02/77		14:28	3.32	.68	127	3539	CODF 24
12/02/77		14:30	1.83	1.83	128	3540	CODF 12
12/02/77		14:32	.17	.58	129	3541	CODF 12
12/02/77		14:37	4.42	.53	130	3542	CODF 24
12/02/77		14:39	1.47	.68	131	3543	CODF 24
12/02/77		14:45	5.32	1.58	132	3544	CODF 12
12/02/77		14:49	2.42	.93	133	3545	CODF 24
12/02/77		14:52	2.07	.40	134	3546	CODF 24
END OF SHIFT AT 15:15							
12/15/77	07:30	07:36	28.60	.37	135	3547	CODF 14
12/15/77		08:21	44.63	3.00	136	3548	CODF 02
12/15/77		08:25	1.00	1.20	137	3549	CODF 02
12/15/77		08:32	5.80	.33	138	3550	CODF 01
12/15/77		08:34	1.67	1.58	139	3551	CODF 02
12/15/77		08:38	2.42	.28	140	3552	CODF 14
12/15/77		08:41	2.72	.72	141	3553	CODF 22
12/15/77		08:47	5.28	.37	142	3554	CODF 01
12/15/77		08:50	2.63	.50	143	3555	CODF 02
12/15/77		08:52	1.50	.32	144	3556	CODF 02
12/15/77		09:02	9.68	.30	145	3557	CODF 01
12/15/77		09:13	10.70	.80	146	3558	CODF 02
12/15/77		09:20	6.20	.53	147	3559	CODF 01
12/15/77		10:03	27.47	.58	148	3560	CODF 02
12/15/77		10:07	3.42	.40	149	3561	CODF 18
12/15/77		10:18	10.60	1.33	150	3562	CODF 02

MODULE 9 = FUZE ASSEMBLY STATION 10E (CONTD) STATION 309 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/15/77		10:25	5.67	.20	151	3563	CODF 02
12/15/77		10:52	26.80	.58	152	3564	CODF 01
12/15/77		11:07	14.42	.25	153	3565	CODF 02
12/15/77		11:08	.75	1.75	154	3566	CODF 12
12/15/77		11:12	2.25	.33	155	3567	CODF 02
12/15/77		11:13	.67	.10	156	3568	CODF 02
12/15/77		11:18	4.90	.28	157	3569	CODF 01
12/15/77		11:23	4.72	.82	158	3570	CODF 02
12/15/77		11:27	3.18	1.02	159	3571	CODF 02
12/15/77		12:35	31.98	.28	160	3572	CODF 02
12/15/77		12:57	21.72	.58	161	3573	CODF 02
12/15/77		12:59	1.42	.28	162	3574	CODF 02
12/15/77		13:01	1.72	.38	163	3575	CODF 17
12/15/77		13:08	6.62	.40	164	3576	CODF 01
12/15/77		13:09	.60	.40	165	3577	CODF 05
12/15/77		13:14	4.60	.27	166	3578	CODF 01
12/15/77		13:22	7.73	7.53	167	3579	CODF 25
12/15/77		13:55	10.47	.33	168	3580	CODF 01
12/15/77		14:00	4.67	.40	169	3581	CODF 01
12/15/77		14:02	1.60	1.00	170	3582	CODF 02
12/15/77		14:07	4.00	.80	171	3583	CODF 02
12/15/77		14:23	15.20	.33	172	3584	CODF 02
12/15/77		14:24	.67	.68	173	3585	CODF 02
12/15/77		14:26	1.32	.40	174	3586	CODF 01
12/15/77		14:28	1.60	.50	175	3587	CODF 02
12/15/77		14:37	8.50	1.88	176	3588	CODF 02
12/15/77		14:40	1.12	.25	177	3589	CODF 02
12/15/77		14:42	1.75	8.88	178	3590	CODF 25
12/15/77		15:00	9.12	.28	179	3591	CODF 01
12/15/77		15:01	.72	.40	180	3592	CODF 12
12/15/77		15:07	5.60	.50	181	3593	CODF 01
END OF SHIFT AT 15:15							
12/16/77	07:30						
12/16/77		07:38	15.50	.50	182	3594	CODF 07
12/16/77		07:40	1.50	.68	183	3595	CODF 12
12/16/77		07:56	15.32	1.28	184	3596	CODF 25
12/16/77		08:00	2.72	1.33	185	3597	CODF 25
12/16/77		08:05	3.67	.68	186	3598	CODF 01
12/16/77		08:07	1.32	.53	187	3599	CODF 01

MODUL F 9 = FU7F ASSEMBLY STATION 10E (CONTD) STATION 309 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURE MODF
12/16/77	08:13	5.47	1.28	188	3600	CODF 15	
12/16/77	08:17	2.72	.22	189	3601	CODF 02	
12/16/77	08:20	2.78	.50	190	3602	CODF 02	
12/16/77	08:21	.50	.58	191	3603	CODF 02	
12/16/77	08:23	1.42	1.75	192	3604	CODF 02	
12/16/77	08:26	1.25	.58	193	3605	CODF 02	
12/16/77	08:28	1.42	3.57	194	3606	CODF 25	
12/16/77	08:32	.43	.50	195	3607	CODF 01	
12/16/77	08:33	.50	.50	196	3608	CODF 02	
12/16/77	08:39	5.50	.88	197	3609	CODF 02	
12/16/77	08:40	.12	.68	198	3610	CODF 02	
12/16/77	08:42	1.32	.28	199	3611	CODF 05	
12/16/77	08:43	.72	.40	200	3612	CODF 02	
12/16/77	08:44	.60	.58	201	3613	CODF 02	
12/16/77	08:45	.42	.50	202	3614	CODF 02	
12/16/77	08:52	6.50	.58	203	3615	CODF 02	
12/16/77	08:59	6.42	.52	204	3616	CODF 01	
12/16/77	09:04	4.48	.80	205	3617	CODF 02	
12/16/77	09:08	3.20	.28	206	3618	CODF 02	
12/16/77	09:13	4.72	.22	207	3619	CODF 02	
12/16/77	09:23	9.78	.83	208	3620	CODF 01	
12/16/77	09:52	8.17	.28	209	3621	CODF 02	
12/16/77	09:55	2.72	1.75	210	3622	CODF 02	
12/16/77	09:57	.25	.80	211	3623	CODF 02	
12/16/77	10:04	6.20	2.20	212	3624	CODF 02	
12/16/77	10:09	2.80	1.80	213	3625	CODF 02	
12/16/77	10:12	1.20	1.40	214	3626	CODF 02	
12/16/77	10:14	.60	.43	215	3627	CODF 02	
12/16/77	10:16	1.57	.58	216	3628	CODF 02	
12/16/77	10:19	2.42	1.10	217	3629	CODF 02	
12/16/77	10:21	.90	3.00	218	3630	CODF 02	
12/16/77	10:27	3.00	1.63	219	3631	CODF 02	
12/16/77	10:41	12.37	.58	220	3632	CODF 02	
12/16/77	10:44	2.42	.75	221	3633	CODF 02	
12/16/77	10:47	2.25	.50	222	3634	CODF 02	
12/16/77	10:51	3.50	.58	223	3635	CODF 02	
12/16/77	10:54	2.42	1.28	224	3636	CODF 02	
12/16/77	10:58	2.72	.43	225	3637	CODF 02	
12/16/77	11:01	2.57	.58	226	3638	CODF 02	
12/16/77	11:04	2.42	.57	227	3639	CODF 02	

MODULE 9 = FUZE ASSEMBLY STATION 10E (CONTD) STATION 309 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMFR	SYSTEM FAILURE NUMFR	FAILURE MODF
12/16/77		11:07	2.43	1.00	228	3640	CODF 02
12/16/77		11:09	1.00	9.50	229	3641	CODF 12
12/16/77		11:23	4.50	.28	230	3642	CODF 02
12/16/77		11:24	.72	.33	231	3643	CODF 01
12/16/77		11:31	6.67	.27	232	3644	CODF 02
12/16/77		12:34	25.73	.27	233	3645	CODF 02
12/16/77		12:47	12.73	.58	234	3646	CODF 02
12/16/77		12:49	1.42	2.50	235	3647	CODF 02
12/16/77		12:54	2.50	.63	236	3648	CODF 02
12/16/77		13:17	22.37	.10	237	3649	CODF 02
12/16/77		13:18	.90	.50	238	3650	CODF 02
12/16/77		13:23	4.50	.13	239	3651	CODF 02
12/16/77		13:49	10.87	.80	240	3652	CODF 01
12/16/77		13:54	4.20	.50	241	3653	CODF 02
12/16/77		14:02	7.50	.42	242	3654	CODF 02
12/16/77		14:12	9.58	.58	243	3655	CODF 02
12/16/77		14:21	8.42	.13	244	3656	CODF 02
12/16/77		14:23	1.87	.50	245	3657	CODF 01
12/16/77		14:35	11.50	.40	246	3658	CODF 02
12/16/77		14:50	14.60	.28	247	3659	CODF 01
12/16/77		14:51	.72	.40	248	3660	CODF 12
12/16/77		14:55	3.60	.38	249	3661	CODF 02
12/16/77		15:05	9.62	.33	250	3662	CODF 02

END OF SHIFT AT 15:15

MODULE 10 = FU7F ASSEMBLY STATION 10W

STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/28/77	07:29						
11/28/77		07:43	14.00	.47	1	3663	CODF 14
11/28/77		07:48	4.53	.33	2	3664	CODF 06
11/28/77		07:56	7.67	.38	3	3665	CODF 25
11/28/77		07:59	2.62	.80	4	3666	CODF 02
11/28/77		08:04	4.20	1.05	5	3667	CODF 02
11/28/77		08:15	9.95	.42	6	3668	CODF 02
11/28/77		08:18	2.58	.25	7	3669	CODF 02
11/28/77		08:21	2.75	.33	8	3670	CODF 14
11/28/77		08:23	1.67	.43	9	3671	CODF 02
11/28/77		08:25	1.57	1.42	10	3672	CODF 12
11/28/77		08:33	6.58	.83	11	3673	CODF 25
11/28/77		08:39	5.17	.60	12	3674	CODF 02
11/28/77		08:41	1.40	.63	13	3675	CODF 1A
11/28/77		08:47	5.37	.57	14	3676	CODF 01
11/28/77		08:59	11.43	.65	15	3677	CODF 1A
11/28/77		09:13	13.35	.52	16	3678	CODF 14
11/28/77		09:16	2.48	.80	17	3679	CODF 1A
11/28/77		09:52	15.20	1.12	18	3680	CODF 06
11/28/77		09:55	1.88	.55	19	3681	CODF 02
11/28/77		09:56	.45	.77	20	3682	CODF 02
11/28/77		09:57	.23	1.48	21	3683	CODF 02
11/28/77		09:59	.52	.40	22	3684	CODF 02
11/28/77		10:01	1.60	.78	23	3685	CODF 25
11/28/77		10:04	2.22	.83	24	3686	CODF 03
11/28/77		10:09	4.17	.50	25	3687	CODF 02
11/28/77		10:15	5.50	.88	26	3688	CODF 03
11/28/77		10:16	.12	.62	27	3689	CODF 14
11/28/77		10:19	2.38	.42	28	3690	CODF 14
11/28/77		10:24	4.58	.58	29	3691	CODF 1A
11/28/77		10:28	3.42	.43	30	3692	CODF 02
11/28/77		10:30	1.57	.28	31	3693	CODF 07
11/28/77		10:36	5.72	.93	32	3694	CODF 02
11/28/77		10:39	2.07	.60	33	3695	CODF 1A
11/28/77		10:42	2.40	.63	34	3696	CODF 07
11/28/77		10:47	4.37	.97	35	3697	CODF 02
11/28/77		10:51	3.03	.88	36	3698	CODF 1A
11/28/77		11:02	10.12	.58	37	3699	CODF 1A
11/28/77		11:04	1.42	.73	38	3700	CODF 01
11/28/77		11:09	4.27	.92	39	3701	CODF 1A

MODULE 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
11/28/77		11:10	.08	1.40	40	3702	CODF 07
11/28/77		11:12	.60	1.72	41	3703	CODF 02
11/28/77		11:17	3.28	.50	42	3704	CODF 18
11/28/77		11:19	1.50	.43	43	3705	CODF 18
11/28/77		11:21	1.57	.67	44	3706	CODF 18
11/28/77		11:22	.33	.6A	45	3707	CODF 02
11/28/77		11:25	2.32	1.80	46	3708	CODF 08
11/28/77		11:27	.20	1.0A	47	3709	CODF 07
11/28/77		11:31	2.92	.68	48	3710	CODF 18
11/28/77		11:32	.32	.83	49	3711	CODF 18
11/28/77		11:34	1.17	.68	50	3712	CODF 07
11/28/77		11:36	1.32	.57	51	3713	CODF 07
11/28/77		11:40	3.43	1.07	52	3714	CODF 12
11/28/77		11:43	1.93	.6A	53	3715	CODF 07
11/28/77		11:4A	4.32	.45	54	3716	CODF 18
11/28/77		12:32	8.55	.20	55	3717	CODF 06
11/28/77		12:39	6.80	.50	56	3718	CODF 18
11/28/77		12:41	1.50	.40	57	3719	CODF 14
11/28/77		12:42	.60	.42	5A	3720	CODF 14
11/28/77		12:44	1.58	.40	59	3721	CODF 14
11/28/77		12:45	.60	.35	60	3722	CODF 01
11/28/77		12:46	.65	.37	61	3723	CODF 07
11/28/77		12:47	.63	.45	62	3724	CODF 01
11/28/77		12:49	1.55	.52	63	3725	CODF 26
11/28/77		12:56	6.48	.78	64	3726	CODF 18
11/28/77		13:00	3.22	.62	65	3727	CODF 18
11/28/77		13:07	6.38	.53	66	3728	CODF 07
11/28/77		13:10	2.47	.62	67	3729	CODF 18
11/28/77		13:17	6.38	.40	6A	3730	CODF 14
11/28/77		13:26	8.60	.63	69	3731	CODF 02
11/28/77		13:54	12.37	.83	70	3732	CODF 02
11/28/77		13:55	.17	.32	71	3733	CODF 02
11/28/77		13:56	.68	.52	72	3734	CODF 02
11/28/77		13:59	2.48	.42	73	3735	CODF 02
11/28/77		14:02	2.58	.50	74	3736	CODF 07
11/28/77		14:03	.50	1.43	75	3737	CODF 06
11/28/77		14:05	.57	.75	76	3738	CODF 02
11/28/77		14:07	1.25	.28	77	3739	CODF 02
11/28/77		14:09	1.72	.63	7A	3740	CODF 18
11/28/77		14:17	7.37	.63	79	3741	CODF 18

MODUL 10 = FUZE ASSEMBLY STATION 10W (CONT'D) STATION 310 AT L5AAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMFR	SYSTEM FAILURE NUMFR	FAILURE MODE
11/28/77		14:20	2.37	.67	80	3742	CODF 02
11/28/77		14:21	.33	.25	81	3743	CODF 02
11/28/77		14:22	.75	.50	82	3744	CODF 02
11/28/77		14:32	9.50	.63	83	3745	CODF 17
11/28/77		14:34	1.37	.97	84	3746	CODF 18
11/28/77		14:41	6.03	.93	85	3747	CODF 25
11/28/77		14:46	4.07	.45	86	3748	CODF 17
11/28/77		14:50	3.55	.40	87	3749	CODF 14
11/28/77		14:51	.60	.42	88	3750	CODF 14
11/28/77		14:54	2.58	.40	89	3751	CODF 01
11/28/77		14:55	.60	.58	90	3752	CODF 18
11/28/77		15:00	4.42	.72	91	3753	CODF 14
END OF SHIFT AT 15:15							
11/29/77	07:27						
11/29/77		07:44	18.28	3.42	92	3754	CODF 12
11/29/77		07:51	3.58	.22	93	3755	CODF 14
11/29/77		07:54	2.78	.22	94	3756	CODF 18
11/29/77		08:02	7.78	.17	95	3757	CODF 14
11/29/77		08:09	6.83	.85	96	3758	CODF 25
11/29/77		08:20	10.15	.50	97	3759	CODF 14
11/29/77		08:25	4.50	.43	98	3760	CODF 18
11/29/77		08:26	.57	.93	99	3761	CODF 25
11/29/77		08:54	27.07	.35	100	3762	CODF 02
11/29/77		08:56	1.65	.35	101	3763	CODF 01
11/29/77		09:03	6.65	.45	102	3764	CODF 01
11/29/77		09:11	7.55	.27	103	3765	CODF 23
11/29/77		09:20	8.73	.83	104	3766	CODF 02
11/29/77		09:48	9.17	.37	105	3767	CODF 06
11/29/77		09:49	.63	.22	106	3768	CODF 06
11/29/77		09:51	1.78	.60	107	3769	CODF 25
11/29/77		09:52	.40	.43	108	3770	CODF 02
11/29/77		09:54	1.57	.35	109	3771	CODF 02
11/29/77		09:58	3.65	.80	110	3772	CODF 03
11/29/77		10:05	6.20	.83	111	3773	CODF 07
11/29/77		10:12	6.17	.77	112	3774	CODF 18
11/29/77		10:31	18.23	.65	113	3775	CODF 18
11/29/77		10:35	3.35	.53	114	3776	CODF 07
11/29/77		10:36	.47	.32	115	3777	CODF 02
11/29/77		10:40	3.68	.05	116	3778	CODF 25

MODULE 10 = FU7F ASSEMBLY STATION 10W (CONJID) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/29/77		10:41	.95	.30	117	3779	CODF 02
11/29/77		10:51	9.70	.48	118	3780	CODF 25
11/29/77		10:55	3.52	.82	119	3781	CODF 02
11/29/77		10:59	3.18	.30	120	3782	CODF 01
11/29/77		11:05	5.70	.60	121	3783	CODF 01
11/29/77		11:06	.40	.83	122	3784	CODF 25
11/29/77		11:12	5.17	1.07	123	3785	CODF 02
11/29/77		11:15	1.93	.20	124	3786	CODF 26
11/29/77		11:16	.80	.20	125	3787	CODF 02
11/29/77		11:19	2.80	.62	126	3788	CODF 25
11/29/77		11:21	1.38	.28	127	3789	CODF 01
11/29/77		11:22	.72	.77	128	3790	CODF 07
11/29/77		11:30	7.23	.32	129	3791	CODF 01
11/29/77		11:37	6.68	1.57	130	3792	CODF 07
11/29/77		11:41	2.43	.35	131	3793	CODF 06
11/29/77		11:45	3.65	.31	132	3794	CODF 06
11/29/77		11:46	.67	.45	133	3795	CODF 07
11/29/77		11:49	2.55	.20	134	3796	CODF 14
11/29/77		12:35	5.80	.45	135	3797	CODF 06
11/29/77		12:48	12.55	.22	136	3798	CODF 06
11/29/77		12:52	3.78	.60	137	3799	CODF 14
11/29/77		12:53	.40	.45	138	3800	CODF 14
11/29/77		12:55	1.55	.88	139	3801	CODF 03
11/29/77		13:00	4.12	.28	140	3802	CODF 06
11/29/77		13:05	4.72	.52	141	3803	CODF 18
11/29/77		13:15	9.48	.52	142	3804	CODF 18
11/29/77		13:16	.48	.10	143	3805	CODF 06
11/29/77		13:17	.90	.23	144	3806	CODF 06
11/29/77		13:18	.77	.42	145	3807	CODF 18
11/29/77		13:19	.58	.58	146	3808	CODF 03
11/29/77		13:21	1.42	.68	147	3809	CODF 02
11/29/77		13:24	2.32	.38	148	3810	CODF 18
11/29/77		13:25	.62	.31	149	3811	CODF 02
11/29/77		13:26	.67	.21	150	3812	CODF 02
11/29/77		13:50	2.77	.43	151	3813	CODF 02
11/29/77		14:00	9.57	.43	152	3814	CODF 18
11/29/77		14:06	5.57	.50	153	3815	CODF 18
11/29/77		14:25	18.50	.23	154	3816	CODF 14
11/29/77		14:39	13.77	.37	155	3817	CODF 18
11/29/77		15:05	25.63	.10	156	3818	CODF 07

MODULE 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
11/29/77				END OF SHIFT AT 15:15			
12/01/77	07:30	07:30	9.90	.25	157	3819	CODF 01
12/01/77		07:32	1.75	.75	15A	3820	CODF 02
12/01/77		07:35	2.25	.13	159	3821	CODF 02
12/01/77		07:36	.87	.62	160	3822	CODF 02
12/01/77		07:37	.38	.48	161	3823	CODF 01
12/01/77		07:41	3.52	.43	162	3824	CODF 02
12/01/77		08:06	24.57	.37	163	3825	CODF 02
12/01/77		08:12	5.63	1.22	164	3826	CODF 12
12/01/77		08:14	.78	1.31	165	3827	CODF 12
12/01/77		08:17	1.67	.30	166	3828	CODF 01
12/01/77		08:18	.70	14.80	167	3829	CODF 16
12/01/77		08:33	.20	.35	16A	3830	CODF 01
12/01/77		08:35	1.65	.68	169	3831	CODF 02
12/01/77		08:37	1.32	.45	170	3832	CODF 02
12/01/77		08:38	.55	.31	171	3833	CODF 01
12/01/77		08:41	2.67	.41	172	3834	CODF 14
12/01/77		08:47	5.57	1.05	173	3835	CODF 12
12/01/77		08:49	.95	.12	174	3836	CODF 12
12/01/77		08:50	.88	.50	175	3837	CODF 02
12/01/77		08:51	.50	.51	176	3838	CODF 02
12/01/77		08:52	.47	.29	177	3839	CODF 02
12/01/77		08:54	1.72	.31	178	3840	CODF 14
12/01/77		09:00	5.67	1.12	179	3841	CODF 12
12/01/77		09:05	3.88	.88	180	3842	CODF 12
12/01/77		09:06	.12	.37	181	3843	CODF 01
12/01/77		09:07	.63	.52	182	3844	CODF 02
12/01/77		09:08	.48	.57	183	3845	CODF 02
12/01/77		09:11	2.43	3.73	184	3846	CODF 12
12/01/77		09:15	.27	.30	185	3847	CODF 02
12/01/77		09:18	2.70	.90	186	3848	CODF 12
12/01/77		09:20	1.10	.40	187	3849	CODF 12
12/01/77		09:21	.60	1.91	188	3850	CODF 12
12/01/77		09:23	.07	1.83	189	3851	CODF 1A
12/01/77		09:25	.17	.51	190	3852	CODF 12
12/01/77		09:26	.47	.50	191	3853	CODF 26
12/01/77		09:27	.50	1.05	192	3854	CODF 12
12/01/77		09:29	.95	.63	193	3855	CODF 12

MODUL F 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

(CONTD)

MODUL F 10 = FU7F ASSEMBLY STATION 10W (CONTD)

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBFR	SYSTEM FAILURE NUMBFR	FAILURE MODF
12/01/77	09:30		.37	.65	194	3856	CODF 12
12/01/77	09:51		.35	2.45	195	3857	CODF 23
12/01/77	09:54		.55	.80	196	3858	CODF 02
12/01/77	09:55		.20	.53	197	3859	CODF 1A
12/01/77	09:56		.47	1.2A	19A	3860	CODF 1A
12/01/77	10:15		1.43	.42	199	3A61	CODF 12
12/01/77	10:16		.58	1.00	200	3862	CODF 03
12/01/77	10:17		0.00	1.22	201	3863	CODF 12
12/01/77	10:20		1.78	.30	202	3864	CODF 01
12/01/77	10:21		.70	2.2A	203	3865	CODF 12
12/01/77	10:25		1.72	3.77	204	3866	CODF 12
12/01/77	10:30		1.23	.43	205	3867	CODF 02
12/01/77	10:31		.57	2.35	206	3868	CODF 12
12/01/77	10:34		.65	A.17	207	3869	CODF 12
12/01/77	10:43		.83	6.00	20A	3870	CODF 12
12/01/77	13:5A		3.00	.43	209	3A71	CODF 1A
12/01/77	13:59		.57	2.83	210	3872	CODF 10
12/01/77	14:11		9.17	.43	211	3873	CODF 01
END OF SHIFT AT 16:01							

12/02/77	07:27		51.28	.33	212	3874	CODF 01
12/02/77	07:52		.67	1.10	213	3875	CODF 12
12/02/77	07:56		1.90	.33	214	3876	CODF 01
12/02/77	0A:10		13.67	.43	215	3877	CODF 1A
12/02/77	0A:11		.57	.33	216	387A	CODF 01
12/02/77	0A:27		15.67	.22	217	3879	CODF 02
12/02/77	0A:2A		.78	.2A	21A	38A0	CODF 14
12/02/77	0A:30		1.72	.40	219	38A1	CODF 2A
12/02/77	0A:33		2.60	.93	220	38A2	CODF 12
12/02/77	0A:36		2.07	.2A	221	38A3	CODF 06
12/02/77	0A:37		.72	.37	222	38A4	CODF 1A
12/02/77	0A:39		1.63	.2A	223	38A5	CODF 14
12/02/77	0A:42		2.72	1.0A	224	38A6	CODF 11
12/02/77	0A:44		.92	1.22	225	38A7	CODF 25
12/02/77	0A:47		1.78	1.40	22A	38A8	CODF 25
12/02/77	0A:51		2.60	.2A	227	38A9	CODF 14
12/02/77	09:02		10.72	1.12	22A	3A90	CODF 02
12/02/77	09:04		.AA	.43	229	3891	CODF 02
12/02/77	09:06		1.57	1.00	230	3892	CODF 02

MODULF 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77	09:07	09:07	0.00	.31	231	3893	CODE 14
12/02/77	09:09	09:09	1.67	.32	232	3894	CODE 01
12/02/77	09:17	09:17	7.68	.33	233	3895	CODE 1A
12/02/77	09:19	09:19	1.67	.27	234	3896	CODE 01
12/02/77	09:20	09:20	.73	.35	235	3897	CODE 1A
12/02/77	09:47	09:47	9.65	.31	236	3898	CODE 1A
12/02/77	09:49	09:49	1.67	.32	237	3899	CODE 1A
12/02/77	09:51	09:51	1.68	.30	238	3900	CODE 1A
12/02/77	09:52	09:52	.70	.51	239	3901	CODE 01
12/02/77	09:53	09:53	.47	.67	240	3902	CODE 1A
12/02/77	10:00	10:00	6.33	.31	241	3903	CODE 01
12/02/77	10:03	10:03	2.67	.32	242	3904	CODE 01
12/02/77	10:04	10:04	.68	.82	243	3905	CODE 12
12/02/77	10:05	10:05	.18	.60	244	3906	CODE 12
12/02/77	10:13	10:13	7.40	.28	245	3907	CODE 01
12/02/77	10:22	10:22	8.72	.42	246	3908	CODE 02
12/02/77	10:29	10:29	6.58	.50	247	3909	CODE 25
12/02/77	10:30	10:30	.50	.30	248	3910	CODE 01
12/02/77	10:36	10:36	5.70	.30	249	3911	CODE 1A
12/02/77	10:52	10:52	15.70	.25	250	3912	CODE 14
12/02/77	10:53	10:53	.75	.31	251	3913	CODE 1A
12/02/77	10:55	10:55	1.67	.30	252	3914	CODE 1A
12/02/77	11:00	11:00	4.70	.18	253	3915	CODE 06
12/02/77	11:01	11:01	.82	.25	254	3916	CODE 02
12/02/77	11:06	11:06	4.75	.27	255	3917	CODE 01
12/02/77	11:07	11:07	.73	.25	256	3918	CODE 1A
12/02/77	11:14	11:14	6.75	.42	257	3919	CODE 1A
12/02/77	11:18	11:18	3.58	.55	258	3920	CODE 03
12/02/77	11:19	11:19	.45	.43	259	3921	CODE 1A
12/02/77	11:20	11:20	.57	.40	260	3922	CODE 1A
12/02/77	11:21	11:21	.60	.43	261	3923	CODE 1A
12/02/77	11:22	11:22	.57	.22	262	3924	CODE 1A
12/02/77	11:23	11:23	.78	.40	263	3925	CODE 1A
12/02/77	11:24	11:24	.60	.67	264	3926	CODE 1A
12/02/77	11:25	11:25	.33	.31	265	3927	CODE 1A
12/02/77	11:26	11:26	.67	1.52	266	3928	CODE 1A
12/02/77	11:28	11:28	.48	1.63	267	3929	CODE 1A
12/02/77	11:30	11:30	.37	1.02	268	3930	CODE 26
12/02/77	11:32	11:32	.98	1.93	269	3931	CODE 1A
12/02/77	11:34	11:34	.07	.33	270	3932	CODE 11

MODULE 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF RPAIR	MOOULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/02/77		11:42	7.67	.28	271	3933	CONF 01
12/02/77		11:45	2.72	.30	272	3934	CONF 01
12/02/77		12:35	14.70	.28	273	3935	CONF 01
12/02/77		12:40	4.72	.57	274	3936	CONF 02
12/02/77		12:47	6.47	.43	275	3937	CONF 18
12/02/77		12:58	10.57	.33	276	3938	CONF 18
12/02/77		12:59	.67	.42	277	3939	CONF 02
12/02/77		13:00	.58	.45	278	3940	CONF 18
12/02/77		13:01	.55	.25	279	3941	CONF 18
12/02/77		13:02	.75	.90	280	3942	CONF 18
12/02/77		13:03	.10	1.22	281	3943	CONF 11
12/02/77		13:09	4.78	.28	282	3944	CONF 02
12/02/77		13:17	7.72	.67	283	3945	CONF 23
12/02/77		13:18	.37	.47	284	3946	CONF 14
12/02/77		13:48	12.53	.25	285	3947	CONF 06
12/02/77		13:49	.75	1.33	286	3948	CONF 18
12/02/77		13:51	.67	1.72	287	3949	CONF 15
12/02/77		14:02	9.28	.52	288	3950	CONF 12
12/02/77		14:04	1.48	.42	289	3951	CONF 18
12/02/77		14:06	1.58	.50	290	3952	CONF 02
12/02/77		14:07	.50	.45	291	3953	CONF 02
12/02/77		14:12	4.55	.25	292	3954	CONF 06
12/02/77		14:14	1.75	.40	293	3955	CONF 18
12/02/77		14:15	.60	.33	294	3956	CONF 18
12/02/77		14:18	2.67	.35	295	3957	CONF 18
12/02/77		14:20	1.65	.80	296	3958	CONF 07
12/02/77		14:21	.20	.52	297	3959	CONF 03
12/02/77		14:22	.48	1.57	298	3960	CONF 03
12/02/77		14:24	.43	1.92	299	3961	CONF 03
12/02/77		14:28	2.08	.68	300	3962	CONF 12
12/02/77		14:30	1.32	.48	301	3963	CONF 02
12/02/77		14:31	.52	.28	302	3964	CONF 02
12/02/77		14:45	13.72	.58	303	3965	CONF 25
12/02/77		14:52	6.42	.38	304	3966	CONF 18
12/02/77		14:55	2.62	.33	305	3967	CONF 07
12/02/77		15:00	4.67	.32	306	3968	CONF 01
12/02/77		15:01	.68	.33	307	3969	CONF 01
12/02/77		15:02	.67	.88	308	3970	CONF 02
12/02/77		15:03	.12	.50	309	3971	CONF 02
12/02/77		15:04	.50	.40	310	3972	CONF 02

MODULE 10 = FU7F ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/02/77		15:05	.60	2.43	311	3973	CONF 02
12/02/77		15:08	.57	.28	312	3974	CONF 01
12/02/77		15:09	.72	.38	313	3975	CONF 01
12/02/77		15:10	.62	.38	314	3976	CONF 01
12/02/77		15:12	1.62	1.33	315	3977	CONF 02
END OF SHIFT AT 15:15							
12/14/77	07:30						
12/14/77		07:31	2.67	.33	316	3978	CONF 14
12/14/77		07:33	1.67	.53	317	3979	CONF 01
12/14/77		07:35	1.47	.83	318	3980	CONF 02
12/14/77		07:39	3.17	.62	319	3981	CONF 02
12/14/77		07:42	2.38	.50	320	3982	CONF 02
12/14/77		07:45	2.50	.75	321	3983	CONF 02
12/14/77		07:59	13.25	.40	322	3984	CONF 02
12/14/77		08:08	8.60	.43	323	3985	CONF 1A
12/14/77		08:10	1.57	.33	324	3986	CONF 01
12/14/77		08:12	1.67	.50	325	3987	CONF 02
12/14/77		08:20	7.50	.40	326	3988	CONF 1A
12/14/77		08:32	11.60	.50	327	3989	CONF 01
12/14/77		08:35	2.50	.68	328	3990	CONF 14
12/14/77		08:39	3.32	.88	329	3991	CONF 02
12/14/77		08:42	2.12	.53	330	3992	CONF 02
12/14/77		08:48	5.47	.20	331	3993	CONF 02
12/14/77		08:50	1.80	.62	332	3994	CONF 01
12/14/77		08:52	1.38	.77	333	3995	CONF 02
12/14/77		09:00	7.23	.33	334	3996	CONF 14
12/14/77		09:06	5.67	1.10	335	3997	CONF 02
12/14/77		09:09	1.90	.20	336	3998	CONF 01
12/14/77		09:10	.80	.50	337	3999	CONF 02
12/14/77		09:19	8.50	.18	338	4000	CONF 02
12/14/77		09:50	15.82	.35	339	4001	CONF 01
12/14/77		09:52	1.65	.33	340	4002	CONF 05
12/14/77		10:00	7.67	.42	341	4003	CONF 18
12/14/77		10:02	1.58	1.08	342	4004	CONF 29
12/14/77		10:08	4.92	.83	343	4005	CONF 10
12/14/77		10:10	1.17	.31	344	4006	CONF 07
12/14/77		10:17	6.67	.53	345	4007	CONF 02
12/14/77		10:19	1.47	.25	346	4008	CONF 1A
12/14/77		10:32	12.75	.20	347	4009	CONF 14

MODULF 10 = FUZF ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
12/14/77		10:35	2.80	.42	348	4010	CODF 14
12/14/77		10:39	3.58	.25	349	4011	CODF 18
12/14/77		10:49	9.75	1.00	350	4012	CODF 12
12/14/77		10:53	3.00	.37	351	4013	DROP RIBBON ON RFLT
12/14/77		10:55	1.67	.20	352	4014	CODF 01
12/14/77		10:59	3.80	.25	353	4015	CODF 18
12/14/77		11:01	1.75	.20	354	4016	CODF 02
12/14/77		11:03	1.80	.12	355	4017	CODF 18
12/14/77		11:06	2.88	.47	356	4018	CODF 02
12/14/77		11:08	1.57	.28	357	4019	CODF 02
12/14/77		11:11	2.72	.20	358	4020	CODF 18
12/14/77		11:12	.80	.97	359	4021	CODF 18
12/14/77		11:14	1.07	.67	360	4022	CODF 18
12/14/77		11:15	.37	.88	361	4023	CODF 02
12/14/77		11:17	1.12	.25	362	4024	CODF 18
12/14/77		11:19	1.75	.28	363	4025	CODF 18
12/14/77		11:21	1.72	.50	364	4026	CODF 18
12/14/77		11:23	1.50	1.05	365	4027	CODF 18
12/14/77		11:25	.95	.75	366	4028	CODF 02
12/14/77		11:29	3.25	1.00	367	4029	CODF 02
12/14/77		11:37	5.00	.40	368	4030	CODF 18
12/14/77		11:49	11.60	.32	369	4031	CODF 18
12/14/77		12:39	14.68	.53	370	4032	CODF 18
12/14/77		12:42	2.47	.12	371	4033	CODF 02
12/14/77		12:47	4.88	2.00	372	4034	CODF 12
12/14/77		12:51	2.00	.40	373	4035	CODF 14
12/14/77		12:59	7.60	.37	374	4036	CODF 18
12/14/77		13:07	7.67	.28	375	4037	CODF 18
12/14/77		13:18	10.72	.25	376	4038	CODF 02
12/14/77		13:23	4.75	.50	377	4039	CODF 02
12/14/77		13:28	4.50	.28	378	4040	CODF 02
12/14/77		13:51	7.72	.20	379	4041	CODF 18
12/14/77		13:53	1.80	.25	380	4042	CODF 18
12/14/77		13:56	2.75	.28	381	4043	CODF 02
12/14/77		14:04	7.72	.50	382	4044	CODF 02
12/14/77		14:07	2.50	.48	383	4045	CODF 02
12/14/77		14:09	1.52	8.05	384	4046	CODF 12
12/14/77		14:18	.95	.67	385	4047	CODF 02
12/14/77		14:20	1.37	1.10	386	4048	CODF 12
12/14/77		14:33	11.90	0.00	387	4049	CODF 12

MODULF 10 = FU7E ASSEMBLY STATION 10W (CONTD) STATION 310 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
12/14/77		14:37	4.00	.40	388	4050	CODE 02
12/14/77		14:42	4.60	.31	389	4051	CODE 1A
12/14/77		14:46	3.67	.20	390	4052	CODE 02
12/14/77		14:50	3.80	.28	391	4053	CODE 1B
12/14/77		14:58	7.72	.50	392	4054	CODE 1A
12/14/77		15:01	2.50	.61	393	4055	CODE 1A
12/14/77							

END OF SHIFT AT 15:10

FINAL ASSEMBLY / PACK OUT SYSTEM SUMMARY - EAST LINE

MODULE	MTRF	MTR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
(CONVEYOR-TRANSFER-SYSTEM	231.2	7.4	8	.96879	1909.0	1849.4
PROJECTILE PLACING ST.	160.4	2.3	11	.98595	1789.0	1763.9
FWD PLATE INSERTION	231.9	6.2	8	.97382	1904.7	1854.8
M42 LAYER INSERTION 1	475.3	2.2	4	.99550	1909.7	1901.1
M42 LAYER INSERTION 2	631.6	3.0	3	.99520	1904.0	1894.9
M42 LAYER INSERTION 3	188.3	2.4	10	.98737	1907.0	1882.9
M42 LAYER INSERTION 4	635.6	.9	3	.99859	1909.6	1906.9
M42 LAYER INSERTION 5	476.8	1.1	4	.99779	1911.3	1907.1
M42 LAYER INSERTION 6	640.4	.8	3	.99871	1923.7	1921.2
M42 LAYER INSERTION 7	637.3	.8	3	.99874	1914.3	1911.9
M42 LAYER INSERTION 8	318.0	.9	6	.99730	1913.0	1907.8
M42 LAYER INSERTION 9	314.7	1.1	6	.99659	1894.9	1888.4
M46 LAYER INSERTION 10	208.1	1.0	9	.99502	1882.6	1873.2
M46 LAYER INSERTION 11	47.2	1.1	39	.97776	1881.1	1839.3
ADAPTER INSERTION	945.6	3.4	2	.99647	1898.0	1891.3
SHIM INSERTION + GAGING	1848.0	0.0	0	1.00000	1848.0	1848.0
RASE PLUG TORQUE ST.	265.3	5.8	7	.97851	1898.0	1857.2
PROJECTILE REMOVAL ST.	123.2	1.1	15	.99089	1865.0	1848.0
DRILL-PIN TRANSFER SYS.	623.9	3.1	3	.99511	1881.0	1871.8
PROJECTILE PLACING ST.	450.9	1.9	4	.99583	1811.0	1803.4
70NE WEIGH + VERIF. ST.	601.4	7.6	3	.98750	1827.0	1804.2
STENCIL STATION	117.7	4.6	15	.96200	1835.2	1765.5
LIFTING PLUG TOPOUE ST.	1861.2	23.8	1	.98737	1885.0	1861.2
LFK TEST STATION	1885.0	0.0	0	1.00000	1885.0	1885.0
PACK-OUT TRANSFER SYSTEM	123.3	1.8	15	.98569	1876.0	1849.1

LOWER ROUND ON SYSTEM AVAILABILITY = .7740 TOTAL FAILURES = 182 SYSTEM MTR = 2.61

MODULF 1 = CONVEYOR-TRANSFER-SYSTEM

STATION 400 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	10:25	155.00	16.32	1	1	WAITING ON APALLETS
01/10/78		10:47	5.68	8.50	2	2	WAITING ON PALLET
01/10/78		11:00	4.50	2.11	3	3	WAITING ON PALLETS
01/10/78		END OF SHIFT AT 15:27					
01/11/78	07:27	END OF SHIFT AT 14:27					
01/11/78		END OF SHIFT AT 14:27					
01/16/78	07:30	08:04	578.87	4.00	4	4	CHAIN JAM
01/16/78		12:13	200.00	6.53	5	5	WAITING ON PALLET
01/16/78		END OF SHIFT AT 15:27					
01/17/78	07:27	END OF SHIFT AT 15:27					
01/17/78		END OF SHIFT AT 15:27					
01/18/78	07:27	07:58	623.47	14.00	6	6	WAITING ON PALLETS
01/18/78		08:14	2.00	4.10	7	7	WAITING ON PALLETS
01/18/78		13:03	239.90	4.00	R	R	WAITING ON PALLETS
01/18/78		END OF SHIFT AT 14:02					

MODULE 2 = PROJECTILE PLACING ST.

STATION 401 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	END OF SHIFT AT	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	08:22	47.00	2.22	15:27	1	9	5 PROJECTILE JAM
01/11/78	07:27	07:53	388.78	1.33	14:27	2	10	51 PROJECTILE JAM
01/15/78	07:30				13:27			
01/17/78	07:27	10:24	756.67	1.35	15:27	3	11	5 PROJ JAM
01/17/78		10:27	1.65	2.12		4	12	2 ELFC FAILURE
01/17/78		14:23	188.88	1.08		5	13	5 PROJECTILE JAM
01/17/78		14:30	5.92	9.00		6	14	5 PROJECTILE JAM
01/18/78	07:27	07:46	67.00	1.40	14:02	7	15	PROJECTILE JAM
01/18/78		12:25	232.60	2.00		8	16	PROJ JAM
01/18/78		12:29	2.00	1.20		9	17	PROJ JAM
01/18/78		12:44	13.80	1.43		10	18	PROJ JAM
01/18/78		12:50	4.57	2.00		11	19	PROJ JAM

MODULE 3 = FWD PLATE INSERTION STATION 402 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	08:02	27.00	18.00	1	20	FSCAPEMENT RELFASF JAM
01/10/78		08:36	16.00	1.00	2	21	PNEUMATIC FAILURE
01/10/78		12:05	163.00	1.00	3	22	FSCAPEMENT JAM
01/10/78		12:08	2.00	2.40	4	23	FSCAPEMENT JAM
01/10/78		12:14	3.60	1.28	5	24	FSCAPEMENT JAM
01/10/78		12:16	.72	22.12	6	25	FSCAPEMENT JAM
01/10/78			END OF SHIFT AT 15:27				
01/11/78	07:27	08:27	213.88	2.00	7	26	PNEUMATIC FAILURE
01/11/78			END OF SHIFT AT 14:27				
01/16/78	07:30		END OF SHIFT AT 15:27				
01/17/78	07:27		END OF SHIFT AT 15:27				
01/18/78	07:27	10:54	1287.70	2.07	R	27	COMPONENT JAM
01/18/78			END OF SHIFT AT 14:02				

STATION 403 AT LSAAP

MODULE 4 = M42 LAYER INSERTION 1

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR TIME	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/10/78	07:35						
01/10/78							
END OF SHIFT AT 15:27							
01/11/78	07:27						
01/11/78							
END OF SHIFT AT 14:27							
01/16/78	07:30						
01/16/78		10:37	911.95	1.00	1	28	ESCAPEMENT JAM
01/16/78							
END OF SHIFT AT 15:27							
01/17/78	07:27						
01/17/78		10:09	391.00	2.32	2	29	FSCAPEMENT JAM
01/17/78		10:37	23.47	4.00	3	30	FSCAPEMENT JAM
01/17/78							
END OF SHIFT AT 15:27							
01/18/78	07:27						
01/18/78		10:03	382.00	1.2R	4	31	FSCAPEMENT JAM
01/18/78							
END OF SHIFT AT 14:02							

STATION 404 AT LSAAP

MODULIF 5 = M42 LAYFR INSFRITION ?

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/10/78	07:35							
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:27	07:53	438.00	5.13	1	32	PNEUMATIC FAILURE	
01/11/78			END OF SHIFT AT 14:27					
01/11/78	07:30	12:30	548.87	1.00	2	33	PNEUMATIC FAILURE	
01/16/78		14:54	128.00	3.00	3	34	PNEUMATIC FAILURE GREN JAMED	
01/16/78			END OF SHIFT AT 15:27					
01/17/78	07:27							
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:27							
01/18/78			END OF SHIFT AT 14:02					

MODULIF 6 = M42 LAYFR INSERTION 3

STATION 405 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	07:51	16.00	6.00	1	35	ESCAPEMENT JAM
01/10/78		08:24	27.00	2.20	2	36	PNEUMATIC FAILURE
01/10/78		12:47	215.80	5.28	3	37	ESCAPEMENT JAM
01/10/78		14:25	77.72	1.20	4	38	PNEUMATIC FAILURE
01/10/78		14:27	.80	1.12	5	39	PNEUMATIC FAILURE
01/10/78		END OF SHIFT AT 15:27					
01/11/78	07:27	08:52	143.88	.63	6	40	PNEUMATIC FAILURE
01/11/78		END OF SHIFT AT 14:27					
01/11/78	07:30	08:24	293.37	4.00	7	41	ESCAPEMENT JAM
01/16/78		14:20	292.00	1.12	8	42	GREEN JAMED
01/16/78		END OF SHIFT AT 15:27					
01/17/78	07:27	07:43	81.88	1.10	9	43	ESCAPEMENT JAM
01/17/78		END OF SHIFT AT 15:25					
01/18/78	07:27	10:58	596.90	1.43	10	44	PNEUMATIC FAILURE
01/18/78		END OF SHIFT AT 14:02					

MODULE 7 = M42 LAYFR INSFRITION 4

STATION 406 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/10/78	07:35							
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30							
01/11/78	07:35	07:35	415.90	.52	1	45	FLEC FAILURE	
01/11/78	14:00	14:00	313.73	1.80	2	46	FSCAPEMFT JAM	
01/11/78			END OF SHIFT AT 14:27					
01/16/78	07:30							
01/16/78			END OF SHIFT AT 15:20					
01/17/78	07:30							
01/17/78	14:00	14:00	761.45	.37	3	47	PALLFT JAM	
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30							
01/18/78			END OF SHIFT AT 14:00					

MODULE R = M42 LAYFR INSERTION 5

STATION 407 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/10/78	07:35	11:00	190.00	2.53	1	48	PALLFT JAM	
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30	07:42	231.47	.63	2	49	ELEC FAILURE	
01/11/78		14:00	309.37	1.02	3	50	ESCAPEMENT JAM	
01/11/78			END OF SHIFT AT 14:27					
01/16/78	07:30	12:35	285.98	.05	4	51	ELEC FAILURE	
01/16/78			END OF SHIFT AT 15:20					
01/17/78	07:30		END OF SHIFT AT 15:27					
01/17/78			END OF SHIFT AT 14:00					

STATION 408 AT LSAAP

MODULF 9 = M42 LAYFR INSERTION 6

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/10/78	07:35		32.00	1.25	1	52	
01/10/78	08:07		2.75	.83	2	53	FLEC FAILURE PUT LINE IN SHELL
01/10/78	08:11		END OF SHIFT AT 15:27				
01/11/78	07:30		END OF SHIFT AT 14:27				
01/16/78	07:30		END OF SHIFT AT 15:20				
01/16/78			END OF SHIFT AT 15:27				
01/17/78	07:30		END OF SHIFT AT 15:27				
01/17/78			END OF SHIFT AT 15:27				
01/18/78	07:30	09:52	1683.90	.40	3	54	PALLFT JAM
01/18/78			END OF SHIFT AT 14:00				
01/18/78			END OF SHIFT AT 14:00				

MODULE 10 = M42 LAYER INSERTION 7

STATION 409 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35						
01/10/78		08:15	40.00	1.00	1	55	PALIFT JAM
01/10/78		13:50	271.75	.50	2	56	PALIFT JAM
01/10/78			END OF SHIFT AT 15:27				
01/11/78	07:30						
01/11/78			END OF SHIFT AT 14:27				
01/16/78	07:30						
01/16/78			END OF SHIFT AT 15:20				
01/17/78	07:30						
01/17/78		07:45	869.25	.92	3	57	FLEC FAILURE
01/17/78			END OF SHIFT AT 15:27				
01/18/78	07:30						
01/18/78			END OF SHIFT AT 14:00				

MODULF 11 = M42 LAYER INSFRITION R

STATION 410 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBR	SYSTEM FAILURE NUMBR	FAILURE MODF	
01/10/78	07:35							
01/10/78		09:00	25.00	2.88	1	58	PALLFT JAM	
01/10/78		14:45	340.62	.58	2	59	FLFC FAILURE	
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30							
01/11/78		07:45	56.42	.28	3	60	FSCAPEMENT JAM	
01/11/78		08:30	44.22	.13	4	61	PALLFT JAM	
01/11/78		10:15	89.87	1.02	5	62	PALLFT JAM	
01/11/78			END OF SHIFT AT 14:27					
01/16/78	07:30							
01/16/78		10:28	360.87	.27	6	63	PALLFT JAM	
01/16/78			END OF SHIFT AT 15:20					
01/17/78	07:30							
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30							
01/18/78			END OF SHIFT AT 14:00					

MODULE 12 = M46 LAYER INSERTION 9

STATION 411 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR TIME	MODUL F NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/10/78	07:35							
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30	07:52	429.00	.8R	1	64	RELEASE PALLET	
01/11/78			END OF SHIFT AT 14:27					
01/11/78			END OF SHIFT AT 15:27					
01/16/78	07:30							
01/16/78			END OF SHIFT AT 15:27					
01/17/78	07:30	08:10	770.12	.5R	2	65	RELEASE PALLET	
01/17/78		08:17	6.42	2.00	3	66	RELEASE HEAD	
01/17/78		12:25	193.88	1.50	4	67	RELEASE PALLET	
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30	08:56	251.50	.50	5	68	PALLET JAM	
01/18/78		12:13	146.50	1.00	6	69	PALLET JAM	
01/18/78			END OF SHIFT AT 14:00					

MODULE 13 = M46 LAYFR INSERTION 10

STATION 412 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
01/10/78	07:35	12:33	248.00	1.15	1	70	PALLFT JAM	
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30	07:54	181.85	.58	2	71	PALLFT JAM	
01/11/78		12:16	211.42	1.40	3	72	PALLFT JAM	
01/11/78			END OF SHIFT AT 14:27					
01/16/78	07:30	08:12	143.60	1.40	4	73	PALLFT JAM	
01/16/78		08:27	13.60	.28	5	74	HEAD FAILED TO RETRACT	
01/16/78		10:20	95.97	2.00	6	75	PALLFT JAM	
01/16/78		10:23	1.00	1.05	7	76	PALLFT JAM	
01/16/78			END OF SHIFT AT 15:27					
01/17/78	07:30	08:06	286.95	.50	8	77	HEAD FAILED TO RETRACT	
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30	08:56	452.87	1.00	9	78	REPLACE CLIP ON PALLET	
01/18/78			END OF SHIFT AT 14:00					

MODULF 14 = M46 LAYER INSERTION 11

STATION 413 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	07:48	13.00	1.32	1	79		PALLET JAM
01/10/78		07:54	4.68	2.28	2	80		PALLET JAM
01/10/78		08:05	8.72	1.20	3	81		HEAD FAILED TO RETRACT
01/10/78		08:17	10.80	2.50	4	82		PALLET JAM
01/10/78		08:24	4.50	2.28	5	83		PALLET JAM
01/10/78		10:02	80.72	1.13	6	84		PALLET JAM
01/10/78		11:00	56.87	1.00	7	85		PALLET JAM
01/10/78		12:03	27.00	1.00	8	86		PALLET JAM
01/10/78		12:24	20.00	.28	9	87		PALLET JAM
01/10/78		12:53	28.72	.20	10	88		PALLET JAM
01/10/78		12:57	3.80	.20	11	89		PALLET JAM
01/10/78		13:52	39.80	.53	12	90		PALLET JAM
01/10/78		15:06	73.47	.28	13	91		PALLET JAM
01/10/78		15:10	3.72	.40	14	92		PALLET JAM
					END OF SHIFT AT 15:27			
01/11/78	07:30	07:55	41.60	.50	15	93		PALLET JAM
01/11/78		09:11	75.50	2.20	16	94		PALLET JAM
					END OF SHIFT AT 14:27			
01/16/78	07:30	08:16	284.80	.28	17	95		PALLET JAM
01/16/78		10:49	125.90	1.00	18	96		PALLET JAM
01/16/78		11:00	10.00	1.00	19	97		PALLET JAM
01/16/78		11:15	14.00	1.00	20	98		PALLET JAM
01/16/78		12:08	17.00	2.00	21	99		PALLET JAM
01/16/78		13:52	86.57	2.00	22	100		PALLET JAM
01/16/78		15:08	74.00	.53	23	101		PALLET JAM
					END OF SHIFT AT 15:27			
01/17/78	07:30	08:33	80.88	.58	24	102		PALLET JAM
01/17/78		08:43	9.42	2.00	25	103		PALLET JAM
01/17/78		10:25	81.30	2.00	26	104		PALLET JAM
01/17/78		10:30	3.00	1.43	27	105		RELEASE LIGHT SWITCH
01/17/78		10:34	2.57	.20	28	106		PALLET JAM
01/17/78		10:49	14.40	1.33	29	107		RESFT LIGHT VALVE
01/17/78		12:13	47.67	1.00	30	108		PALLET JAM

MODULE 14 = M46 LAYFR INSERTION 11 (CONTD) STATION 413 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	TIME OF MODULF FAILURE	NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/17/78					END OF SHIFT AT 15:27			
01/18/78	07:30							
01/18/78		08:26	234.00	.40		31	109	RESFT SWITCH
01/18/78		09:09	42.60	.58		32	110	PALLFT JAM
01/18/78		10:07	42.42	1.00		33	111	RESFT SWITCH
01/18/78		10:17	9.00	1.00		34	112	PALLFT JAM
01/18/78		10:20	2.00	.53		35	113	PALLFT JAM
01/18/78		12:15	79.47	.43		36	114	RESFT SWITCH
01/18/78		12:17	1.57	1.20		37	115	PALLEY JAM
01/18/78		12:24	5.80	2.00		38	116	PALLEY JAM
01/18/78		12:44	18.00	1.00		39	117	RESFT SWITCH
01/18/78					END OF SHIFT AT 14:00			

MODULE 15 = ADAPTER INSERTION

STATION 414 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/10/78	07:35							
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30							
01/11/78			END OF SHIFT AT 14:27					
01/16/78	07:30							
01/16/78			END OF SHIFT AT 15:27					
01/17/78	07:30							
01/17/78		14:07	14:07	1.20	1	11A	PALLFT JAM	
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30							
01/18/78		10:10	223.80	5.50	2	119	ESCAPE JAM	
01/18/78			END OF SHIFT AT 14:00					

MODULE 16 = SHIM INSERTION + GAGING

STATION 415 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/10/78	07:35						
01/10/78							

01/11/78	07:10						
01/11/78							

01/16/78	07:30						
01/16/78							

01/17/78	07:30						
01/17/78							

01/18/78	07:30						
01/18/78							

MODULE 17 = BASE PLUG TOROUR ST.

STATION 416 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBFR	FAILURE MODE
01/10/78	07:35		35.00	4.3R	1	120	PALLFT JAM
01/10/78		08:10	4.62	1.03	2	121	TIGHTEN BOTTOM TORQUES HEAD
01/10/78		08:19	END OF SHIFT AT 15:27				
01/11/78	07:30		END OF SHIFT AT 14:27				
01/16/78	07:30		END OF SHIFT AT 15:27				
01/16/78		08:46	779.97	1.42	3	122	SHFL WAS HING IN PALLFT
01/16/78		10:40	97.58	18.92	4	123	STA FAILED TO RELEASE PALLFT
01/16/78		11:14	15.08	2.00	5	124	PALLFT JAM
01/16/78		13:12	81.00	8.32	6	125	PNEUMATIC FAILURE
01/16/78			END OF SHIFT AT 15:27				
01/17/78	07:30		END OF SHIFT AT 14:00				
01/17/78		08:41	182.68	4.72	7	126	TORQUE MACHINE HAD TO RE RELINED
01/17/78			END OF SHIFT AT 15:27				
01/18/78	07:30		END OF SHIFT AT 14:00				

STATION 417 AT LSAAP

MODULE 1A = PROJECTILE REMOVAL ST.

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	08:06	31.00	.70	1	127	SHOCK BIN DID NOT RELEASE SHOCK PIN DID NOT RELEASE PALLFT
01/10/78		12:38	221.30	.82	2	128	
01/10/78			END OF SHIFT AT 15:27				
01/11/78	07:30	10:40	328.18	2.07	3	129	
01/11/78		12:18	60.93	2.61	4	130	PALLFT JAM
01/11/78			END OF SHIFT AT 14:00				
01/16/78	07:30	12:15	309.37	1.37	5	131	PALLFT JAM
01/16/78		14:41	129.63	.72	6	132	PALLFT JAM
01/16/78			END OF SHIFT AT 15:27				
01/17/78	07:30	09:55	175.28	.63	7	133	PALLFT JAM
01/17/78		10:24	28.37	.40	8	134	PALLFT JAM
01/17/78		10:45	20.60	1.23	9	135	PALLFT JAM
01/17/78		12:27	65.77	1.12	10	136	PALLFT JAM
01/17/78		12:30	1.88	1.58	11	137	PNEUMATIC FAILURE
01/17/78		14:30	103.42	1.02	12	138	PALLFT JAM
01/17/78			END OF SHIFT AT 15:27				
01/18/78	07:36	08:42	121.98	.58	13	139	PALLFT JAM
01/18/78		09:50	52.42	1.12	14	140	PALLFT JAM
01/18/78		10:20	28.88	1.00	15	141	PALLFT JAM
01/18/78			END OF SHIFT AT 14:00				

MODULE 19 = DRILL + PIN TRANSFER SYS.

STATION 500 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/10/78	07:35						
01/10/78		13:21	296.00	1.27	1	142	PALLETT JAM
01/10/78				END OF SHIFT AT 15:27			
01/11/78	07:30						
01/11/78				END OF SHIFT AT 14:00			
01/16/78	07:30						
01/16/78				END OF SHIFT AT 15:27			
01/17/78	07:30						
01/17/78		08:08	884.73	3.05	2	143	CLUTCH ADJUSTMENT
01/17/78		08:27	15.95	4.89	3	144	CLUTCH ADJUSTMENT
01/17/78				END OF SHIFT AT 15:27			
01/18/78	07:30						
01/18/78				END OF SHIFT AT 14:00			

MODULE 20 = PROJECTILE PLACING ST.

STATION 501 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/10/78	07:35						
01/10/78		12:20	235.00	2.00	1	145	OIL LEAK
01/10/78		14:37	120.00	1.40	2	146	PALLFT JAM
01/10/78		14:56	17.60	2.95	3	147	MEMORY PIN 1005E
01/10/78			END OF SHIFT AT 15:27				
01/11/78	07:30						
01/11/78			END OF SHIFT AT 14:00				
01/16/78	07:30						
01/16/78		14:00	668.05	1.20	4	148	PALLFT JAM
01/16/78			END OF SHIFT AT 15:27				
01/17/78	07:30						
01/17/78			END OF SHIFT AT 15:27				
01/18/78	08:30						
01/18/78			END OF SHIFT AT 14:00				

MODULE 21 = 70NF WEIGH + VERIF. ST.

STATION 502 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35	09:30	115.00	15.00	1	149	BREAK
01/10/78			END OF SHIFT AT 15:25				
01/11/78	07:30		END OF SHIFT AT 14:20				
01/16/78	07:35	07:48	592.03	5.43	2	150	OVERSIZED BASE PLATF
01/16/78			END OF SHIFT AT 15:25				
01/17/78	07:30	10:06	515.22	2.40	3	151	FALSF WFIGHT
01/17/78			END OF SHIFT AT 15:25				
01/18/78	07:30		END OF SHIFT AT 14:05				
01/18/78							

MODULE 22 = STFNCL STATION

STATION 503 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMFR	FAILURF MODF	
01/10/7A	07:35							
01/10/7A		08:09	34.00	.35	1	152	CLEAR INK LINE	
01/10/7A		08:25	15.65	.31	2	153	CLEAR INK LINE	
01/10/7A		10:16	95.67	18.02	3	154	CLEAR INK LINE	
01/10/7A		10:40	5.98	22.81	4	155	CHANGE INK PUMP	
01/10/7A		12:31	53.17	2.30	5	156	CLEAN STFNCL	
01/10/7A			END OF SHIFT AT 15:25					
01/11/7A	07:30							
01/11/7A		07:51	179.70	.42	6	157	CLEARED INK LINE	
01/11/7A		08:05	11.58	1.62	7	158	CLEAR INK LINE	
01/11/7A			END OF SHIFT AT 14:20					
01/16/7A	07:35							
01/16/7A			END OF SHIFT AT 15:25					
01/17/7A	07:30							
01/17/7A		07:36	667.55	2.41	8	159	CLFAR INK LINE	
01/17/7A		07:41	2.57	.75	9	160	CLEAR INK LINE	
01/17/7A		11:10	193.25	3.02	10	161	CLEARED INK LINE	
01/17/7A			END OF SHIFT AT 15:25					
01/18/7A	07:30							
01/18/7A		07:33	196.98	10.92	11	162	CLFAR INK LINE	
01/18/7A		07:49	5.08	.92	12	163	CLFAR INK LINE	
01/18/7A		08:49	59.08	2.61	13	164	REPAIRED STFNCL	
01/18/7A		09:01	9.37	.61	14	165	REPAIRED STFNCL	
01/18/7A		09:56	39.37	2.57	15	166	REPAIRED STFNCL	
01/18/7A			END OF SHIFT AT 14:05					

MODULF 23 = LIFTING PLUG TORQUE ST.

STATION 504 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/10/78	07:35						
01/10/78				END OF SHIFT AT 15:25			
01/11/78	07:30						
01/11/78				END OF SHIFT AT 14:20			
01/16/78	07:35						
01/16/78				END OF SHIFT AT 15:25			
01/17/78	07:30						
01/17/78				END OF SHIFT AT 15:25			
01/18/78	07:30						
01/18/78		07:52	1577.00	23.80	1	167	RFSFT RFLAY
01/18/78				END OF SHIFT AT 14:05			

MODULE 24 = LEAK TFST STATION

STATION 505 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
01/10/78	07:35							
01/10/78			END OF SHIFT AT 15:25					
01/11/78	07:30							
01/11/78			END OF SHIFT AT 14:20					
01/16/78	07:35							
01/16/78			END OF SHIFT AT 15:25					
01/17/78	07:30							
01/17/78			END OF SHIFT AT 15:25					
01/18/78	07:30							
01/18/78			END OF SHIFT AT 14:05					

MODULE 25 = PACK-OUT TRANSFER SYSTEM

STATION 506 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOF	
01/10/78	07:35	11:11	201.00	2.93	1	168	WAIT ON PACK-OUT PALLFT	
01/10/78		12:27	38.07	2.63	2	169	WAIT ON PACK-OUT PALLFTS	
01/10/78		13:53	68.37	.52	3	170	WAIT ON BACK-OUT PALLFTS	
01/10/78			END OF SHIFT AT 15:27					
01/11/78	07:30	08:23	146.48	.55	4	171	WAITING FOR PACK OUT PALLFTS	
01/11/78		10:32	113.45	.80	5	172	WAITING FOR PACK OUT PALLFTS	
01/11/78			END OF SHIFT AT 14:00					
01/16/78	07:30	12:26	393.20	3.50	6	173	NO PACK OUT PALLFTS	
01/16/78		13:57	72.50	2.72	7	174	NO PACK OUT PALLFTS	
01/16/78			END OF SHIFT AT 15:27					
01/17/78	07:30	14:04	416.28	2.12	8	175	WAITING FOR PACK OUT PALLFTS	
01/17/78		14:52	45.88	.73	9	176	WAITING FOR PACK OUT PALLFTS	
01/17/78			END OF SHIFT AT 15:27					
01/18/78	07:30	08:36	100.27	2.02	10	177	NO PACK OUT PALLFTS	
01/18/78		08:45	6.98	1.40	11	178	NO PACK OUT PALLFTS	
01/18/78		12:19	162.60	1.92	12	179	NO PACK OUT PALLFTS	
01/18/78		12:56	35.08	3.23	13	180	NO PACK OUT PALLFTS	
01/18/78		13:10	10.77	.70	14	181	NO PACK OUT PALLFTS	
01/18/78		13:56	30.30	1.08	15	182	NO PACK OUT PALLFTS	
01/18/78			END OF SHIFT AT 14:05					

FINAL ASSEMBLY / PACK OUT SYSTEM SUMMARY - WEST LINE

MODULE	MTRF	MTRR	TOTAL MODULE FAILURES	AVAIL.	TOTAL SCHEDULED UPTIME	TOTAL ACTUAL UPTIME
CONVEYOR-TRANSFFR-SYSTEM	322.3	6.0	6	.98164	1970.1	1933.9
PROJECTILE PLACING ST.	231.6	3.4	8	.98556	1880.0	1852.8
FWD PLATE INSERTION	1977.7	0.0	0	1.00000	1977.7	1977.7
M42 LAYER INSERTION 1	645.7	.7	3	.99895	1939.0	1937.0
M42 LAYER INSERTION 2	483.0	2.5	4	.99493	1942.0	1932.1
M42 LAYER INSERTION 3	492.0	1.0	4	.99801	1971.9	1968.0
M42 LAYER INSERTION 4	655.6	.6	3	.99909	1968.5	1966.7
M42 LAYER INSERTION 5	491.2	1.8	4	.99635	1971.9	1964.7
M42 LAYER INSERTION 6	387.9	2.3	5	.99413	1951.0	1939.5
M42 LAYER INSERTION 7	485.8	1.9	4	.99601	1951.0	1943.2
M42 LAYER INSERTION 8	648.9	1.2	3	.99809	1950.5	1946.8
M46 LAYER INSERTION 9	389.5	.7	5	.99831	1951.0	1947.7
M46 LAYER INSERTION 10	487.3	.5	4	.99900	1951.0	1949.0
M46 LAYER INSERTION 11	159.9	1.0	12	.99358	1930.8	1918.4
ADAPTER INSFRITION	965.5	11.5	2	.98823	1954.0	1931.0
SHIM INSERTION + GAGING	481.7	1.3	4	.99733	1932.0	1926.8
RASF PLUG TORQUE ST.	390.0	2.2	5	.99436	1961.0	1949.9
PROJECTILE REMOVAL ST.	1948.2	12.8	1	.99346	1961.0	1948.2
DRILL+PIN TRANSFER SYS.	490.3	1.4	4	.99723	1966.5	1961.1
PROJECTILE PLACING ST.	1880.0	4.0	1	.99788	1884.0	1880.0
70NF WEIGH + VFPIF. ST.	467.4	3.6	4	.99244	1884.0	1869.7
STENCIL STATION	234.0	1.8	8	.99251	1886.5	1872.4
LIFTING PLUG TORQUE ST.	1888.8	0.0	0	1.00000	1888.8	1888.8
LFAK TEST STATION	1923.0	0.0	0	1.00000	1923.0	1923.0
PACK-OUT TRANSFFR SYSTEM	172.2	2.8	11	.98423	1924.1	1893.7

LOWER ROUND ON SYSTEM AVAILABILITY = .9787 TOTAL FAILURES = 105 SYSTEM MTR = 2.3A

MODULF 1 = CONVFYOR-TRANSFER-SYSTEM

STATION 420 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:27	10:26	164.00	1.05	1	1	CHAIN JAMMED
01/03/77			END OF SHIFT AT 15:25				
01/04/77	07:27	07:43	268.95	.43	2	2	RESFT LIMIT SWITCH VALVF
01/04/78		07:46	2.57	.20	3	3	RESFT LIMIT SWITCH VALVF
01/04/78		07:48	1.80	.20	4	4	RESFT LIMIT SWITCH VALVF
01/04/78			END OF SHIFT AT 15:15				
01/05/77	07:27	07:27	385.65	33.00	5	5	CONVFYOR RFLT JAM
01/05/78			END OF SHIFT AT 15:27				
01/06/77	07:30						
01/06/78			END OF SHIFT AT 15:05				
01/09/77	07:27	08:11	761.20	1.28	6	6	WAIT FOR PALLET
01/09/78			END OF SHIFT AT 15:27				

MODULE 2 = PROJECTILE PLACING ST.

STATION 421 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MOOF
01/03/77	07:27						
01/03/78	09:02	69.00	1.10		1	7	PROJECTILE JAM
01/03/78	12:05	136.90	8.00		2	8	FLFC FAILURE
01/03/78				END OF SHIFT AT 15:25			
01/04/77	07:27						
01/04/78	12:51	445.00	2.00		3	9	PROJECTILE JAM
01/04/78				END OF SHIFT AT 15:15			
01/05/77	07:27						
01/05/78	08:30	147.00	2.00		4	10	BELL FEEDING STA OUT OF LINE
01/05/78	08:47	15.00	2.13		5	11	PROJECTILE JAM
01/05/78				END OF SHIFT AT 15:27			
01/05/77	07:27						
01/06/78	07:42	335.87	1.63		6	12	PNEUMATIC FAILURE
01/06/78	14:15	269.37	4.00		7	13	PROJECTILE JAM
01/06/78	15:04	45.00	6.28		8	14	PROJECTILE JAM
01/06/78				END OF SHIFT AT 15:05			
01/09/77	07:27						
01/09/78				END OF SHIFT AT 15:27			

STATION 422 AT LSAAP

MODULE 3 = FWD PLATE INSERTION

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:27						
01/03/78							
END OF SHIFT AT 15:25							
01/04/77	07:27						
01/04/78							
END OF SHIFT AT 15:15							
01/05/77	07:27						
01/05/78							
END OF SHIFT AT 15:27							
01/06/77	07:27						
01/06/78							
END OF SHIFT AT 15:05							
01/09/77	07:27						
01/09/78							
END OF SHIFT AT 15:27							

MODULE 4 = M42 LAYFR INSERTION 1

STATION 423 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:30						
01/03/78							
END OF SHIFT AT 15:25							
01/04/77	07:30						
01/04/78							
END OF SHIFT AT 15:25							
01/05/77	07:30						
01/05/78		08:05	860.00	.80	1	15	OUT OF CYCLF
01/05/79							
END OF SHIFT AT 15:27							
01/06/77	07:30						
01/06/78							
END OF SHIFT AT 15:05							
01/09/77	07:30						
01/09/78		11:25	881.20	.27	2	16	PALLFT JAM
01/09/79		15:00	169.77	1.00	3	17	PART UNDER PALIFT
01/09/78							
END OF SHIFT AT 15:27							

MODULE 5 = M42 LAYER INSERTION 2

STATION 424 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF NUMBER	FAILURE NUMBER	SYSTEM NUMBER	FAILURE MODE
01/03/77	07:30							
01/03/78	07:30							
01/04/77	07:30							
01/04/78	07:50	08:14	431.95	.13	1	18	18	FSCAPEMENT JAM
01/04/78	08:14	14:05	23.87	.28	2	19	19	PALLFT LOST AIR
01/04/78	14:05		282.72	5.00	3	20	20	FSCAPEMENT JAM
01/04/78								
01/05/77	07:30							
01/05/78	07:30							
01/06/77	07:30							
01/06/78	07:30							
01/09/77	07:30							
01/09/78	08:45	08:45	904.13	4.43	4	21	21	MACHINE PICKED UP SHELL
01/09/78								

MODULE 6 = M42 LAYER INSERTION 3

STATION 425 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBR	SYSTEM FAILURE NUMBR	FAILURE MODE
01/03/77	07:30						
01/03/78							
END OF SHIFT AT 15:25							
01/04/77	07:30						
01/04/78							
END OF SHIFT AT 15:25							
01/05/77	07:30						
01/05/78		10:10	975.00	.43	1	22	OUT OF CYCLE
01/05/78		10:15	4.57	2.20	2	23	GREEN HING UP
01/05/78		10:45	27.80	1.02	3	24	FSCAPEMENT JAM
01/05/78		13:55	143.98	.28	4	25	LIMIT SWITCH
END OF SHIFT AT 15:27							
01/06/77	07:30						
01/06/78							
END OF SHIFT AT 15:05							
01/09/77	07:30						
01/09/78							
END OF SHIFT AT 15:27							

MODULE 7 = M42 LAYER INSERTION 4

STATION 426 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
01/03/77	07:30	10:45	180.00	.50	1	26	PALLEY HY PASSED	
01/03/78			END OF SHIFT AT 15:25					
01/03/78			END OF SHIFT AT 15:25					
01/04/77	07:30	07:35	239.50	.20	2	27	PALLEY DID NOT LOCK	
01/04/78			END OF SHIFT AT 15:25					
01/04/78			END OF SHIFT AT 15:25					
01/05/77	07:30		END OF SHIFT AT 15:27					
01/05/78			END OF SHIFT AT 15:27					
01/06/77	07:30		END OF SHIFT AT 15:05					
01/06/78			END OF SHIFT AT 15:05					
01/09/77	07:30	11:20	1346.32	1.10	3	28	PALLEY JAM	
01/09/78			END OF SHIFT AT 15:27					
01/09/78			END OF SHIFT AT 15:27					

MODULE 8 = M42 LAYFR INSERTION 5

STATION 427 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:30						
01/03/78		11:20	215.00	0.00	1	29	PALLFT DID NOT LOCK IN
01/03/78			END OF SHIFT AT 15:25				
01/04/77	07:30						
01/04/78			END OF SHIFT AT 15:25				
01/05/77	07:30						
01/05/78		14:05	950.00	2.00	2	30	GRENADE HUNG UP
01/05/78			END OF SHIFT AT 15:27				
01/06/77	07:30						
01/06/78		15:00	407.90	1.00	3	31	PALLFT JAM
01/06/78			END OF SHIFT AT 15:05				
01/09/77	07:30						
01/09/78		15:20	389.00	4.20	4	32	PALLFT JAM
01/09/78			END OF SHIFT AT 15:27				

MODULE 9 = M42 LAYFR INSERTION 6

STATION 428 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/03/77	07:30						
01/03/78	08:15	45.00	130.72	3.2A	1	33	HEAD PICKED UP A PROJ
01/03/78	10:44			.2A	2	34	FSCAPEMENT JAM
01/03/78			END OF SHIFT AT 15:27				
01/04/77	07:30						
01/04/78	07:55	262.72		.62	3	35	ALIGN MACHINE
01/04/78			END OF SHIFT AT 15:15				
01/05/77	07:30						
01/05/78			END OF SHIFT AT 15:27				
01/06/77	07:30						
01/06/78	10:13	874.38		.5A	4	36	RESFT LIMIT VALVE
01/06/78			END OF SHIFT AT 15:05				
01/09/77	07:30						
01/09/78	11:14	425.42		6.6A	5	37	RELAY STUCK
01/09/78			END OF SHIFT AT 15:27				

MODULE 10 = M42 LAYER INSERTION 7

STATION 429 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:30						
01/03/78		09:55	130.00	.8R	1	38	FSCAPEMFT
01/03/78				END OF SHIFT AT 15:27			
01/04/77	07:30						
01/04/78				END OF SHIFT AT 15:15			
01/05/77	07:30						
01/05/78				END OF SHIFT AT 15:27			
01/06/77	07:30						
01/06/78		07:50	1118.12	.2R	2	39	RESFT LIMIT VALVE
01/06/78		10:27	81.72	2.2R	3	40	PIN GRENADE
01/06/78				END OF SHIFT AT 15:05			
01/09/77	07:30						
01/09/78		11:00	395.72	4.31	4	41	HEAD PICKFD UP GREN
01/09/78				END OF SHIFT AT 15:27			

MODULE 11 = M42 LAYER INSERTION A

STATION 430 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBFR	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/77	07:30						
01/03/78		10:46	180.50	.37	1	42	FSCAPEMENT JAM
01/03/78		13:55	143.67	3.00	2	43	HEAD PICKED UP GRENADE
01/03/78				END OF SHIFT AT 15:27			
01/04/77	07:30						
01/04/78				END OF SHIFT AT 15:15			
01/05/77	07:30						
01/05/78				END OF SHIFT AT 15:27			
01/06/77	07:30						
01/06/78				END OF SHIFT AT 15:05			
01/09/77	07:30						
01/09/78		08:44	1305.00	.40	3	44	GRENADE HUNG
01/09/78				END OF SHIFT AT 15:27			

MODULE 12 = M46 LAYER INSERTION 9

STATION 431 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/03/78	07:30		290.00	.50	1	45	FSCAPEMENT JAM	
01/03/78		13:05	40.50	.28	?	46	PIN STUCK IN GRENADE	
01/03/78		14:01	END OF SHIFT AT 15:27					
01/04/78	07:30		END OF SHIFT AT 15:15					
01/04/78			END OF SHIFT AT 15:27					
01/05/78	07:30		END OF SHIFT AT 15:27					
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:30		912.72	.88	3	47	PALLFT JAM	
01/06/78		07:45	84.12	.50	4	48	HUNG GRENADE	
01/06/78		10:25	END OF SHIFT AT 15:05					
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:30		394.50	1.13	5	49	HEAD FAILED TO RETRACT	
01/09/78		10:55	END OF SHIFT AT 15:27					
01/09/78			END OF SHIFT AT 15:27					

MODULE 13 = M46 LAYER INSERTION 10

STATION 432 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78		08:21	51.00	.5R	1	50	PIN RETRACT
01/03/78		09:05	43.42	.50	2	51	SHELL JAM
01/03/78			END OF SHIFT AT 15:27				
01/04/78	07:30						
01/04/78		10:58	514.50	.2R	3	52	PIN RETRACTOR STUCK
01/04/78			END OF SHIFT AT 15:15				
01/05/78	07:30						
01/05/78			END OF SHIFT AT 15:27				
01/06/78	07:30						
01/06/78		07:48	636.72	.5R	4	53	PALLFT JAM
01/06/78			END OF SHIFT AT 15:05				
01/09/78	07:30						
01/09/78			END OF SHIFT AT 15:27				

MODULE 14 = M46 LAYER INSERTION 11

STATION 413 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMRFR	FAILURE MODE	
01/03/78	07:30	09:03	03:00	1:03	1	54	LIMIT SWITCH STUCK	
01/03/78		09:50	30:97	1:10	2	55	FSCAPEMENT JAM	
01/03/78		15:07	262:68	2:00	3	56	LIMIT SWITCH STUCK	
01/03/78			END OF SHIFT AT 15:25					
01/04/78	07:30	07:43	29:00	.45	4	57	PALLFT JAM	
01/04/78		12:10	216:55	.52	5	58	PRO.FECTILF STUCK	
01/04/78		13:48	02:48	2:53	6	59	MACHINE OFF CYCLF	
01/04/78			END OF SHIFT AT 15:20					
01/05/78	07:30		END OF SHIFT AT 15:27					
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:30	09:46	562:47	1:05	7	60	RELFAF PIN TRAY	
01/06/78		09:58	10:95	.50	8	61	RELFAF PIN TRAY	
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:30	07:37	263:50	1:53	9	62	RELFAF LIMIT VALVF	
01/09/78		07:40	1:47	1:00	10	63	RELFAF LIMIT VALVF	
01/09/78		07:44	3:00	.40	11	64	RELFAF LIMIT VALVF	
01/09/78		10:57	152:60	.28	12	65	RELFAF MFAD	
01/09/78			END OF SHIFT AT 15:27					

MODULE 15 = ADAPTER INSERTION

STATION 474 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/01/78	07:30							
01/01/78					END OF SHIFT AT 15:25			
01/04/78	07:30							
01/04/78					END OF SHIFT AT 15:20			
01/05/78	07:30							
01/05/78					END OF SHIFT AT 15:27			
01/06/78	07:30							
01/06/78		15:05	1544.98	22.00		1	66	PNEUMATIC FAILURE
01/06/78					END OF SHIFT AT 15:27			
01/09/78	07:30							
01/09/78		14:55	355.00	1.00		2	67	
01/09/78					END OF SHIFT AT 15:27			

MODULF 16 = SHIM INSERTION + GAGING

STATION 435 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78							
01/04/78	07:30						
01/04/78							
01/05/78	07:30	10:35	973.00	.42	1	68	RESFT LIMIT SWITCH
01/05/78		12:16	65.58	1.50	2	69	RESFT LIMIT SWITCH
01/05/78		12:47	29.50	2.00	3	70	RESFT LIMIT SWITCH
01/05/78							
01/06/78	07:30	07:38	151.00	1.23	4	71	RESFT LIMIT SWITCH
01/06/78							
01/09/78	07:30						
01/09/78							

MODULE 17 = BASE PLING TORQUE ST.

STATION 416 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODUL FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/03/78	07:30							
01/03/78			END OF SHIFT AT 15:27					
01/04/78	07:27	07:27	417.00	6.22	1	72	ALIGN TORQUE HEAD	
01/04/78			END OF SHIFT AT 15:27					
01/05/78	07:30	11:07	610.78	.88	2	73	PALLFT RAM UP	
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:30	12:30	399.12	1.33	3	74	ESCAPEMNT JAM	
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:30	07:59	167.67	.05	4	75	PALLFT JAM	
01/09/78		08:02	2.95	2.58	5	76	ESCAPEMNT JAM	
01/09/78			END OF SHIFT AT 15:27					

MODULE 18 = PROJECTILE REMOVAL ST.

STATION 437 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULF FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78							

01/04/78	07:27						
01/04/78							

01/05/78	07:30						
01/05/78							

01/06/78	07:30						
01/06/78							

01/09/78	07:30						
01/09/78		07:42	1586.00	12.81	1	77	REPLACED RFNT MICRO SWITCH
01/09/78							

MODULF 19 = DRILL PIN TRANSFER SYS.

STATION 520 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULF NUMBER	FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30							
01/03/78		08:44	74.00	1.40	1		78	WAIT FOR PALLETS
01/03/78		13:09	217.47	1.00	2		79	WAIT FOR PALLETS
01/03/78			END OF SHIFT AT 15:27					
01/04/78	07:27							
01/04/78			END OF SHIFT AT 15:27					
01/05/78	07:30							
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:30							
01/06/78		10:10	1042.77	2.12	3		80	REPLACED GRAMMFL ON PALLET
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:30							
01/09/78		11:10	422.88	.93	4		81	TIGHTEN ROLLER CAM REPAIRING
01/09/78			END OF SHIFT AT 15:25					

MODULE 20 = PROJECTILE PLACING ST.

STATION 521 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF	
01/03/78	07:30							
01/03/78			END OF SHIFT AT 15:25					
01/04/78	07:30							
01/04/78			END OF SHIFT AT 15:15					
01/05/78	07:39							
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:35							
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:39							
01/09/78		14:30	1829.00	4.00	1	82	REPLACED SPRING	
01/09/78			END OF SHIFT AT 15:25					

MODULF 21 = ZONF WFIGH + VERIF. ST.

STATION 522 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78		09:45	120.00	5.00	1	A3	CHECKING SCALES
01/03/78		13:45	185.00	3.52	2	A4	CHECKING SCALES
01/03/78							END OF SHIFT AT 15:25
01/04/78	07:30						
01/04/78		14:13	424.48	1.23	3	A5	CHECK LOADCFL
01/04/78							END OF SHIFT AT 15:15
01/05/78	07:39						
01/05/78							END OF SHIFT AT 15:27
01/06/78	07:35						
01/06/78							END OF SHIFT AT 15:05
01/09/78	07:39						
01/09/78		13:45	1044.77	4.50	4	A6	CHECK SCALES
01/09/78							END OF SHIFT AT 15:25

MODULE 22 = STENCIL STATION

STATION 523 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODF
01/03/78	07:30	14:16	341.00	1.02	1	87	PALLETT DID NOT LOCK IN
01/03/78			END OF SHIFT AT 15:25				
01/04/78	07:30						
01/04/78		08:45	141.43	1.00	2	88	CHECK WIPER
01/04/78		09:06	20.00	5.80	3	89	REPLACE WIPERS
01/04/78		10:30	58.20	2.70	4	90	CLEAN INK LINE
01/04/78		13:54	146.30	1.52	5	91	PALLETT DID NOT LOCK
01/04/78		14:28	32.48	.52	6	92	PALLETT FAILED TO LOCK AT STA
01/04/78			END OF SHIFT AT 15:15				
01/05/78	07:39						
01/05/78							
01/05/78			END OF SHIFT AT 15:27				
01/06/78	07:35						
01/06/78		09:55	509.48	1.15	7	93	PALLETT FAILED TO LOCK AT STA
01/06/78		14:11	194.85	.43	8	94	PALLETT FAILED TO LOCK AT STA
01/06/78			END OF SHIFT AT 15:05				
01/09/78	07:39						
01/09/78							
01/09/78			END OF SHIFT AT 15:24				

MODULE 23 = LIFTING PLUG TORQUE ST.

STATION 524 AT L.SAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78							
01/04/78	07:30						
01/04/78							
01/05/78	07:39						
01/05/78							
01/06/78	07:30						
01/06/78							
01/09/78	07:30						
01/09/78							

MODULE 24 = LEAK TEST STATION

STATION 525 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE
01/03/78	07:30						
01/03/78							
01/04/78	07:30						
01/04/78							
01/05/78	07:30						
01/05/78							
01/06/78	07:30						
01/06/78							
01/09/78	07:30						
01/09/78							

MODULE 25 = PACK-OUT TRANSFER SYSTEM

STATION 526 AT LSAAP

DATE	START UP TIME	TIME OF FAILURE	TIME TO FAILURE	TIME OF REPAIR	MODULE FAILURE NUMBER	SYSTEM FAILURE NUMBER	FAILURE MODE	
01/07/78	07:30							
01/07/78		08:36	66.00	4.31	1	95	WAITING ON PALLETS	
01/07/78		13:05	214.67	3.43	2	96	WAITING ON PALLETS	
01/07/78			END OF SHIFT AT 15:25					
01/04/78	07:30							
01/04/78		14:00	451.57	1.52	3	97	WAITING ON PACKOUT PALLETS	
01/04/78		14:03	1.48	2.60	4	98	WAITING ON PACKOUT PALLETS	
01/04/78			END OF SHIFT AT 15:27					
01/05/78	07:30							
01/05/78		13:59	396.40	3.58	5	99	NO PACK OUT PALLETS	
01/05/78		14:04	1.42	1.88	6	100	NO PACK OUT PALLETS	
01/05/78			END OF SHIFT AT 15:27					
01/06/78	07:30							
01/06/78			END OF SHIFT AT 15:05					
01/09/78	07:30							
01/09/78		10:10	505.23	7.10	7	101	WAIT FOR PALLETS	
01/09/78		10:20	2.90	.63	8	102	WAIT FOR PALLETS	
01/09/78		10:23	2.37	3.98	9	103	WAIT FOR PALLETS	
01/09/78		14:40	208.02	.75	10	104	WAIT FOR PALLETS	
01/09/78		15:03	22.25	.53	11	105	WAIT FOR PALLETS	
01/09/78			END OF SHIFT AT 15:25					

DISTRIBUTION LIST

COPY NUMBER

Project Manager Munitions Production Base Modernization & Expansion	
ATTN: DRCPM-PBM	1
DRCPM-PBM-DP	2
DRCPM-PBM-T	3
DRCPM-PBM-T-PA	4-6
DRCPM-PBM-L	7
DRCPM-PBM-LS	8-9
DRCPM-PBM-MA	10
Dover, NJ 07801	
 Project Manager for Selected Ammunition	
ATTN: DRCPM-SA	11-12
Dover, NJ 07801	
 U.S. Army Armament Materiel Readiness Command	
ATTN: DRSAR-IRI	
DRSAR-QA	13-14
Rock Island, IL 61299	15
 Commander Lone Star Army Ammunition Plant	
ATTN: SARLS-CO	16
SARLS-EN	17-18
SARLS-QA	10-20
Texarkana, TX 75501	
 D&Z Inc., Lone Star Division	
ATTN: Mr. J. Raffaelli	21-23
Texarkana, TX 75501	
 Commander Kansas Army Ammunition Plant	
ATTN: SARKA-EN	24-25
Parsons, KN 67357	
 D&Z Inc., Kansas Division	
ATTN: QC Dept	26
Parsons, KN 67357	
 Commander Milan Army Ammunition Plant	
ATTN: SARMI-EN	27
Milan, TN 38358	

Commander	
US Army Armament Research & Development Command	
ATTN: DRDAR-TD	28
DRDAR-SE	29
DRDAR-LCU	30-34
DRDAR-LCS	35
DRDAR-LCM	36
DRDAR-QA	37
DRDAR-QAR	38-51
DRDAR-QAS	52-65
DRDAR-TSS	66-70
Dover, NJ 07801	
Defense Documentation Center	71-82
Cameron Station	
Alexandria, VA 22314	
Weapon System Concept Team/CSL	
ATTN: DRDAR-ACW	83
Aberdeen Proving Ground, MD 21010	
Technical Library	
ATTN: DRDAR-CLJ-L	84
Aberdeen Proving Ground, MD 21010	
Technical Library	
ATTN: DRDAR-TSB-S	85
Aberdeen Proving Ground, MD 21005	
Benet Weapons Laboratory	
Technical Library, ATTN: DRDAR-LCB-TL	86
Watervliet, NY 12189	
Commander	
US Army Armament Materiel Readiness Command	
ATTN: DRSAR-LEP-L	87
Rock Island, IL 61299	
Director	
U.S. Army TRADOC Systems Analysis Activity	
ATTN: ATAA-SL (Tech Lib)	88
White Sands Missile Range, NM 88002	