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AS-503 POST LAUNCH SOFTWARE ASSESSMENT

FACILITY FORM 602

N69-35132 (ACCESSION NUMBER) (THRU)
32 (PAGES) 1 (CODE)
TMX-61786 (NASA CR OR TMX OR AD NUMBER) 08 (CATEGORY)

Prepared By

CHECKOUT AUTOMATION OPERATION

LV-CAP-A

SG1-57388

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AS-503 POST LAUNCH SOFTWARE ASSESSMENT

Prepared By

CHECKOUT AUTOMATION OPERATION

LV-CAP-A

February 3, 1969

TEST: SERVICE ARM OVERALL

AS-503

DATE: September 20, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
DMON	Display Descriptions 844 and 843 did not display variable data, background data was displayed. The following error message was printed on the line printer: DISPLAY MONITOR INPUT ERROR REQUEST REJECTED	TPR No. I-731 has been generated. The maximum limit of 100 analog readings was exceeded. CLOSED TP-503-5

NOTE: TEST SCRUBBED...

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February 3, 1969

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SECTION I
INTRODUCTION

This report summarizes the outstanding Saturn Launch Computer Complex (SLCC) Software problems and anomalies that occurred during the countdown of AS-503. All problems in this report that are shown as unresolved have been submitted to IBM Programming on Program Trouble Report forms for corrective action on future software deliveries.

Section II shows the AS-503 Computer Software Configuration.

Section III contains the Summary of AS-503 Countdown Software Problems, and Section IV contains the details of the AS-503 Computer Software Problems.

Section V contains the Procedural Workaround.

Section VI contains the Terminal Program Output, and Section VII contains the Program Events.

Section VIII contains the Cycling Discrete Groups, and the Major Test Problems are described in Section IX.

SECTION II
AS-503 COMPUTER SOFTWARE CONFIGURATION

The tapes listed below were used for the launch of AS-503.

110A Operating System	OS-503-6
Test Program	TP-503-6
LVDC Flight Tape	MT-503C'-4
Variable Launch Azimuth	VLA-503-4
ATOLL Test Programs	AT-503-2D
Measurement Calibration	MF-503-2H
Display Description	DD-503-6
DEE-6 Operating System	ES-503-2E-09
DDP-224 Operating System	Phase 4, Rev. F

SECTION III
AS-503 COUNTDOWN SOFTWARE PROBLEM SUMMARY

The following problems were encountered during the AS-503 countdown. Problems that were transferred to AS-504 are shown in Section IV.

IVAR	Time Occurred	Time Lost	Description/Action
FS09	0115 EST 12-20-68	15 min.	No instruction alarm occurred while running CTC1. FS09 erroneously clears restart option address in CTC1 when LVDC sync error occurs. Work around available: On FS09 errors --take terminate option and recall CTC1 rather than restart option. Ref. TPRI-884.
CTC1	0115 EST 12-20-68	N/A	Bad macro call in CTC1 caused Op System to print out bad data prior to no instruction alarm. Ref. above FS09.

SECTION IV
OPEN PROGRAM PROBLEMS TRANSFERRED TO AS-504

The following is a tabulation of open program problems that were transferred to AS-504.

IVAR	Reference (PTR,TPR,CAP)	Date Occurred	Current Status
ZE02	IS-V-0052 503-6329 TPR I-782C	11-07-68	Unable to terminate ZE02 due to tape failure. CAP transferred to 504-2888.
FT27	503-6566 V-00866 TPR IB-358C	11-17-68	FT27 issued LDO 50 off erroneously. Problem found to be in FT27 Forced Test End Routine. This problem will have no major impact on vehicle testing for AS-503. FT27 is not planned to be run prior to launch of 503. CAP transferred to 504-2887.
CTC4	503-6472 V-00869	11-12-68	Invalid out-of-tolerance indications are displayed on rate switch tests for negative excursions. This problem will have no major impact on AS-503 vehicle testing. CAP transferred to 506-0021.
DMON	503-6575 V-00870	11-19-68	DMON reading invalid data. IU stage control C word is zero. Postprocessing shows that DD's with invalid DDAS addresses may cause control C words to be cleared. Procedural workaround will be to allow only valid display descriptions to be called. DD's 305, 312, 314, and 316 are not to be called. CAP transferred to 504-3082.

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IVAR	Reference (PTR,TPR,CAP)	Date Occurred	Current Status
DMON	V-00888	12-8-68	If more than 100 measurements are requested per stage, DMON will output the following message continuously: 100 DMON REQUEST EXCEED FOR STAGE XXXX. Procedural workaround will be to monitor DMON address counter and clear DMON's and/or DD's which cause the counter to exceed 100. CAP transferred to 504-3172.
FT04	None	12-11-68	During power off sequence, the following message was displayed: FAILED TO RESET POWER ON DISCRETE DURING POWER OFF SEQUENCE. Problem found to be caused by a hardware change. No impact to AS-503 launch. PCR is necessary to correct for subsequent vehicles.

SECTION V
AS-503 COMPUTER SOFTWARE PROBLEMS

The following is a listing of the AS-503 Computer Software Problems.

	IVAR	PROBLEM	RESOLUTION
1.	ZE02	Unable to terminate function executor ZE02. The system had to be re-initialized before support could continue.	Procedural workaround.
2.	CTC4	CTC4 printout indicates that the angular rate R4602 is out of tolerance.	Procedural workaround.
3.	DMON	DMON reading invalid data.	Procedural workaround.
4.	DMON	If more than 100 measurements are requested per stage, DMON will output the following message continuously: 100 DMON REQUEST EXCEED FOR STAGE XXXX.	Procedural workaround.

SECTION VI
AS-503 COMPUTER SOFTWARE PROCEDURAL WORKAROUND

This section describes the Procedural Workaround for AS-503.

	IVAR	PROCEDURAL WORKAROUND
1.	ZE02	ZE02 is not currently scheduled for use during CDDT and Launch of AS-503. However, if ZE02 is required to support on-line post-processing, it will execute normally unless it encounters a log tape failure. ZE02 has recently been used in support of AS-503 under normal conditions without any problems. The problem that was reported occurred because a tape had actually been removed from the system and replaced back on the mobile launcher computer for postprocessing. It was the unexpected operator intervention that caused the program to malfunction.
2.	CTC4	Angular rate R4602 displayed on the Sanders console is flagged as out of tolerance. The displayed value agrees with meter reading. Engineer's judgment is considered a workaround by the control engineer.
3.	DMON	Only valid display descriptions are to be called. DD's 305, 313, 314 and 316 are not to be called.
4.	DMON	The DMON address counter will be monitored to ensure that it does not exceed 100 DMON.

SECTION VII
TERMINAL PROGRAMS OUTPUT

The following is a list of the final display output by FT42, AMP3, BE01 and BE02:

FT42 PREDICTED TIME OF LIFTOFF

12 Hrs 51 Min 00 Sec

FINAL FIRING AZIMUTH

072 Deg 07 Min 30 Sec

ACTUAL LIFTOFF TIME

12 Hrs 51 Min 00.656 Sec

AMP3 FINAL AMP 3 CONSTANTS

AMP 3 DATA: Z-0.007 X+0.0093 Y+0.000

BE01 FINAL BE01 OUTPUT

RP1 MASS	PCT MAXF	T-0 DENSITY	PCT MAXL	LOX MAX	PRESENT TEMP.	PRESENT DENS.
1359791	90.82	50.435	93.69	3123229	59.9°	50.435

BE02 FINAL BE02 OUTPUT

	FUEL AUTO	FUEL MAN.	LOX AUTO	LOX MAN.
SIC	99.76	99.72	99.85	99.94
SII	100.13	100.13	99.99	99.99
SIVB	100.12	100.12	100.03	100.03

RP1 LEVEL 222.3 LOX LEVEL 662.7

SECTION VIII
PROGRAM EVENTS

The scheduled and actual countdown times are shown in Table 8-1. The execution time does not include callup or loading of the program.

Table 8-1. Program Events

SCHEDULED CDT*	ACTUAL CDT	IVAR	INITIAL OPTION	START TIME GMT	STOP TIME GMT	EXECUTION TIME
T-08:59	T-08:51.08	FT04	Power On, $P000000	02:59/52.274	03:01/29.606	0:00/36.332
	T-08:47.44	FT35	$PX	03:03/16.407	03:04/13.899	0:00/57.492
	T-08:45.13	FT20	All Routines $P1	03:05/47.357	03:06/57.940	0:01/10.593
	T-08:43.20	FT23	Sum Check Command System $P1	03:07/40.752	03:12/43.147	0:05/02.395
	T-08:36.35	FT08	$PX	03.14/25.860	03:14/32.900	0:00/07.040
T-08:35	T-08:33.23	FT43	Automatic $P0	03:17/37.337	03:21/03.837	0:03/26.500
T-08:10	T-08:26.22	FT03	Automatic $P0	03:24/38.624	03:28/4T.459	0:04/08.835
T-8:00	T-08:12.59	FT37	Repeatable Simulated Flight $P1	03:38/01.717	03.38/16.968	0:00/15.251

*Scheduled countdown times (CDT) were extracted from the LV Countdown Demonstration Test and Launch Countdown Revision No. 001

Table 8-1. Program Events (Continued)

SCHEDULED CDT*	ACTUAL CDT	IVAR	INITIAL OPTION	START TIME GMT	STOP TIME GMT	EXECUTION TIME
T-7:45	T-07:57:01	FT23	Normal Sum Check $P0	03:53/59.037	03:59/33.606	0:05/34.569
T-07:35	T-07:44.00	FT05	Load All Memory $P10	04:07/00.932	04:33/02.237	00:26/01.305
T-06:58	T-07:13.04	FT55	4.511 Milli-second $PC	04:37/56.435	04:38/12.416	00:00/15.981
T-06:55	T-07:05.44	FT45	$PX	04:45/16.441	04:47/34.210	00:02/17.769
T-06:38	T-06:43.28	FT47	Preflight Com-mand Test $P1	05:07/32.487	05:07/36.582	00:00/04.095
	T-06:41.13	FT47	rn to Nor-mal Status $P3	05:09/47.127	05:09/58.875	00:00/11.748
T-06:30	T-06:39.21	FT10	Automatic Full Range $P0	05:11/39.501	05:20/04.542	00:08/25.041
T-05:30	T-05:37.17	CTC2	$PNRM	06:13/43.399	06:24/16.214	00:10/32.815
	T-05:25.30	FT10	Manual Con-trol $P2	06:25/30.080	06:27/30.387	00:02/00.307
T-04:45	T-05:08.55	FT06	Platform Drift $PB101039A	06:42/05.520	06:54/29.959	00:12/24.439

Table 8-1. Program Events (Continued)

SCHEDULED CDT*	ACTUAL CDT	IVAR	INITIAL OPTION	START TIME GMT	STOP TIME GMT	EXECUTION TIME
T-3:50	T-04:41.46	CTC5	$PAB, D, EF, H, J	07:09/14:221	07:21/48.213	00:12/33.992
	T-04:26.41	CTC4	$PNORM	07:24/19.589	07:49/39.037	00:25/19.448
	T-03:58.49	CTC1	$PB, C, E, I, JK, M	07:52/11.598	08:23/36.659	00:31/25.061
T-03:00	T-03:30.00	FT06	Platform Drift $PB101239A	08:39/50.318	08:51/23.806	00:11/33.488
T-02:15	T-03:30.00	XADS	$PR1	09:10/53.683	09:14/03.370	00:03/09.887
T-02:05	T-02:56.07	FT06	Platform Drift $PB100139A	09:54/53.989	10:06/40.357	00:11/46.368
T-1:40	T-02:01.39	FT33	Manual $P1	10:49/21.992	10:52/35.243	00:03/13.325
	T-01:57.13	VAED	No Deletions $PR1	10:53/47.737	11:11/18.874	00:17/31.137
T-01:09:30	T-01:36.06	FT10	Manual $P2	11:14/54.470	11:17/45.746	00:02/51.276
T-01:04:30	T-01:29.40	FT06	Gimbal Angle $PA	11:21/21.054	11:22/09.417	00:00/48.363
T-01:01:30	T-01:25.31	GT16	New Firing Azimuth $PA+ 0720000	11:25/29.372	11:29/30.327	00:04/00.955

Table 8-1. Program Events (Continued)

SCHEDULED CDT*	ACTUAL CDT	IVAR	INITIAL OPTION	START TIME GMT	STOP TIME GMT	EXECUTION TIME
T-00:51.30	T-01:15.47	FT06	Gimbal Angle $PA	11:35/13.412	11:35/50.992	00:00/37.580
T-00:48.30	T-01:11.05	FT49	Print All $PB	11:39/55.425	11:40/14.372	00:00/18.947
T-00:46:30	T-01:05.07	FT47	Preflight Command $P1	11:45/53.992	11:48/59.581	00:03/05.589
	T-01:03.04	FT47	Return to Normal Status $P3	11:47/56.858	11:48/04.926	00:00/08.068
T-00:41.30	T-00:59.59	FT23	Auto Check All Sector $P0	11:51/02.092	11:56/26.692	00:05/24.600
	T-00:31:31	FT10	Manual $P2	12:19/29.814	12:22/36.842	00.03/07.028
T-00:22.00	T-00:22.47	VATC	$PA	12:28/13.547	12:30/07.723	00:01/54.176
T-00:15:00	T-00:15.05	FT06	Gimbal Angle $PA	12:35/55.790	12:36/45.372	00:00/49.582
T-00:12:00	T-00:10.57	FT42	$PX	12:40/02.857	12:58/02.717	00:17/59.860

SECTION IX
CYCLING DISCRETE GROUPS

The discrete groups in table 9-1 were automatically masked out during the last nine hours of launch of AS-503. High activity was noted on the indicated cycling discrete(s) (within the group) at the time the group was masked out. Time was also listed for the release of discrete group(s) by the use of the function executor SE93.

Table 9-1. Launch Discrete Groups

CDT	GMT	Group/Released	Discrete Within Group	Cycling Discretes
T-08:51	02:59/23.5	33 IODC 5	768--791	773
	02:59/49.4	Released All		
T-8:12	03:38/30.3	31 IODC 5	720--743	733
	03:43/44.5	Released All		
T-8:08	03:42/58.7	31 IODC 5	720--743	733,734
	03:55/04.7	Released All		
T-7:51	03:59/29.3	31 IODC 5	720--743	734,735,736
T-7:06	0444/31.8	1 IODC 7	1512--1535	1527,1525
T-7:01	0449/58.4	2 IODC 7	1536--1559	1537,1542
T-4:30	0721/35.2	5 IODC 7	1608--1631	1630
T-4:26	0724/34.6	Released All		
T-4:26	0724/42.1	1 IODC 7	1512--1535	1523,1527
T-4:26	0724/45.2	5 IODC 7	1608--1631	1630
T-4:26	0724/43.4	2 IODC 7	1536--1559	1539,1541, 1543

CDT	GMT	Group/Released	Discrete Within Group	Cycling Discrete
	0801/49.7	Released All		
T-3:43	0807/01.3	31 IODC 7	2232--2255	2255
	0807/39.2	Released All		
T-3:30	0908/20.2	31 IODC 7	2232--2255	2255
	0909/06.2	Released All		
T-3:06	0945/10.8	31 IODC 7	2232--2255	2255
	0945/54.9	Released All		
T-2:45	1006/58.96	31 IODC 7	2232--2255	2255
	1007/24.3	Released All		
	1007/42.5	Released All		
T-2:44	1007/51.2	31 IODC 7	2232-2255	2255
	1007/59.0	Released All		
T-2:43	1008/01.6	31 IODC 7	2232--2255	2255
	1008/11.0	Released All		
	1008/25.4	Released All		
	1008/49.3	Released All		
T-2:42	1009/02.4	31 IODC 7	2232--2255	2255
	1014/14.2	Released All		
T-2:36	1015/16.2	31 IODC 7	2232--2255	2255

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The discrete groups in table 9-2 were automatically masked out during the indicated AS-503 tests.

Table 9-2. Varied Test Discrete Groups

S/V 0AT #1	MCC-H Interface	FRT
31 IODC 5 720--743	31 IODC 5 720--743	33 IODC 5 768--791
33 IODC 5 768--791		
34 IODC 7 2304--2327	14 IODC 7 1824--1847	31 IODC 7 2232--2255
	34 IODC 7 2304--2327	34 IODC 7 2304--2327

The discrete groups in table 9-3 were automatically masked out during CDDT--AS-503.

Table 9-3. CDDT Discrete Groups

31 IODC 5 720-743		
1 IODC 7 1512-1535	2 IODC 7 1536-1559	5 IODC 7 1608-1631
31 IODC 7 2232-2255	34 IODC 7 2304-2327	

The discrete groups in table 9-4 were permanently masked out on AS-503.

Table 9-4. AS-503 Permanent Discrete Groups

32 IODC 7 2256--2279	33 IODC 7 2280--2303	37 IODC 7 2376--2399

Table 9-4. AS-503 Permanent Discrete Groups (Continued)

38 IODC 7 2400-2423	39 IODC 7 2424--2447	40 IODC 7 2448--2471
41 IODC 7 2472--2495	42 IODC 7 2496--2519	58 IODC 7 2880--2903
59 IODC 7 2904--2927	60 IODC 7 2928--2951	61 IODC 7 2952--2975
62 IODC 7 2976--2999	63 IODC 7 3000--3023	

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SECTION X
AS-503 MAJOR TEST PROBLEMS

The major test problems and their status and resolution are shown in this section.

TEST: LV MALFUNCTION OAT

DATE: September 13, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
FU01	During the execution of FT47 Preflight Command Test, the computer reset pulse was not received.	The FU01 Simulated Plus Time Tables had a command function card punched incorrectly. The number of data words following the code card was punched one column to the right. FU01 did validate the card deck. PTR V-00770 has been generated. CLOSED TP-503-4
MT01	The S-IC Measurement Table exceeded 300 measurements, and two measurement racks were required to support the MT01 S-IC run. The lights in the measurement room were left on after the low run or 10 mode in the B rack.	This was determined to be a hardware problem with the rack relay. CLOSED --- NO ACTION
ATOLL	The great (7) number of provisional tapes in the computer room caused a good deal of confusion. A large amount of time was spent changing tapes.	Provisional tapes will be consolidated into one master provisional tape for major tests. CLOSED
SU51	DEE-6 failed to go to EST time from CDC when countclock was holding. This occurred only when the CDC received a hold signal from the TSC.	TPR I-710 has been generated. CLOSED---NO ACTION (HARDWARE)

TEST: CDDT (WET)

DATE: December 8-10, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
DMON	The following DMON error message was output continuously: 100 DMON REQUEST EXCEEDED FOR STAGE xxxx	If more than 100 measurements are requested per stage, DMON will output the message continuously until the DMON request is cancelled. PTR V-888 has been generated.
BE02	Program could not be executed from Console 3.	An illegal keyboard entry was made. CLOSED---NO ACTION.
FT47	Houston Preflight Commands were not received. MDO 982 was ON. It is required to be in the OFF state for the LVDC to receive commands from Houston.	FT47 issues MDO 982 OFF prior to receiving Houston commands. The program was terminated while commands from Houston were being sent. MDO 982 was still OFF and commands under this condition could still be received. FT47 was then recalled. Test Program Control prior to executing FT47 turns MDO 982 ON. Houston commands failed at this time. The test engineer should not recall FT47. CLOSED---NO ACTION.

IVAR	PROBLEM	STATUS AND RESOLUTION
OPSYS	IODC 7 was terminated by software. The following message was output: LOG AND HISTORY COMPARED Group 1 MLC IODC 7 STOPPED Console one operator continued to release all masked groups prior to IODC 7 termination.	Very high discrete activity caused the log table to wraparound. When the log tal was compared to the history table, they were found to be the same.

TEST: CDDT (DRY)

AS-503

DATE: December 11, 1968

IVAR	PROBLEM	STATUS RESOLUTION
GE01	During a HOLD at T-6 minutes, the following error message was output: THIS COMMAND IS INVALID FUNT GE01	FT42 recalculated the firing azimuth due to the HOLD. FT42 would then try to terminate GE01 and recall GE16 to re-position the Platform.

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APPROVAL

GP-628

AS-503 POST LAUNCH SOFTWARE ASSESSMENT

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TEST: LV OVERALL TEST NUMBER 2

AS-503

DATE: September 18, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
OPSYS	IODC 7 was terminated by software. The following messages were printed on the line printer. COULD NOT FIND CYCLING MDI 1238/03 CYCLING GROUP NUMBER 13 IODC 7 MASKED OUT LOG AND HISTORY COMPARED GROUP 53 MLC IODC 7 STOPPED	S-IVB experienced trouble in transferring to internal power. The S-IVB cycled from internal to external power causing a very high activity of MDI's. The DEE-6 recorded over 3,000 discrete changes while the S-IVB power transfer cycled. This high activity caused the log table to wrap around. When the log table was compared to the history table, they were found to be the same. CLOSED---NO ACTION
VAED	Discrete number 1185 listed in a profile build table should have been 1785.	PTR NS-V-6 has been generated. CLOSED AT-503-2D
ME01	Remained in the low mode for 30 seconds. Execution rate of ME01 was 15 seconds.	Drum parity error occurred so that ME01 could not be retrieved from drum. After 15 second interval ME01 was successfully loaded and executed at the next 15 second interval. CLOSED---NO ACTION (HARDWARE)
ME01	The S-IC VMGSE RACS display system remained in LOW mode after completion of ME01 on 9/18 during OAT #2, even though the S-IC vehicle RACS measurements returned to RUN mode. This abnormality also occurred during the malfunction test.	PTR JK-503-10 has been generated.

TEST: SERVICE ARM OVERALL

AS-503

DATE: September 20, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
DMON	Display Descriptions 844 and 843 did not display variable data, background data was displ: yed. The following error message was printed on the line printer: DISPLAY MONITOR INPUT ERROR REQUEST REJECTED	TPR No. I-731 has been generated. The maximum limit of 100 analog readings was exceeded. CLOSED TP-503-5

NOTE: TEST SCRUBBED...

TEST: SERVICE ARM OVERALL

AS-503

DATE: October 2, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
ME01	Remained in low mode for 45 seconds. Execution rate of ME01 was set at 15 seconds. GMT = 192412 On the second T-0 ME01 did not encounter any problems. GMT = 200154	Drum parity errors occurred so that ME01 could not be retrieved from drum. The third try to read ME01 from the Drum was successful. CLOSED---NO ACTION (HARDWARE)
DMON	Display Descriptions 844 and 843 did not display variable data, background data was displayed. The following error message was printed on the line printer: DISPLAY MONITOR INPUT ERROR REQUEST REJECTED.	The maximum limit of 100 analog readings was exceeded. The error message appears to be inappropriate. PTR JK-503-15 has been generated. CLOSED---TP-503-5
SU51	DEE-6 failed to go to EST from CDC mode at TCS cutoff. This occurred at T-17 sec.	PTR JK-503-12 has been generated. The time change FLIP FLOP L206 was set by the hold signal for 300 microseconds. SU51 checked this FLIP FLOP every 2 MILLI SECONDS. CLOSED---NO ACTION (HARDWARE)

TEST: S/V OAT NUMBER 1

AS-503

DATE: November 6, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
VATC	VATC will not terminate.	VATC, while executing, failed a switch scan which forced VATC in the SEMI mode. The console operator then recalled VATC before entering the CONTINUE option of the program. After VATC terminated normally, the next program in the stack to be executed was VATC. VATC executed down to the NAME operator. The program was terminated by console entry. CLOSED--NO ACTION.
FT27	FT27 did not issue tower test deck discretes after liftoff.	MDI 785 which causes FT27 to start tower test deck functions failed to be issued. SW SEL 21 in FT27 is a backup for this failure --it is supposed to be the first SW SEL output of the LVDC, but according to the ICD list, SW SEL 25 is the first one issued. PTR Number 849 has been generated. CLOSED - TP-503-6
FT27	FT27 did not reset clock in TB6.	FT27 is looking for the wrong SW SEL to start TB6. CLOSED-TP-503-6.

TEST: LV MALFUNCTION OAT PART XI

AS-503

DATE: October 1, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
ME01	The Program could be executed. The following message was printed on the Line Printer: UNABLE TO LOAD DRUM ME01.	Drum Parity error occurred so that ME01 could not be retrieved from drum. CLOSED---NO ACTION (HARDWARE)
VATC	Program could not be executed. $PA was entered. An Invalid Card Code message was displayed.	The program was requested from Page A of Console 2. $PA was entered from Page B of Console 2. CLOSED---NO ACTION

TEST: LV/MCC-H COMMAND INTERFACE TEST

AS-503

DATE: November 11, 1968

	PROBLEM	STATUS
IVAR FT27	All tower test functions issued 10 seconds late--after liftoff.	Postprocessing indicated that only MDO 1386 and 1388 were issued 8.5 seconds late (start of TB3). A utility core dump was requested at that time. MDO's could only be issued after the dump was completed. CLOSED--NO ACTION
DMON	Unable to complete callup of DD 312, IU Measurement.	DD 312 is defective on the DD-503-6 Tape.

AS-503

TEST: ABBREVIATED FRT

DATE: November 17, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
DMON	Display Description called from one console appeared on another console.	Problem has been corrected by EPRN 503-62. CLOSED OS-503-6
DMON	224 input buffer hang-up caused by invalid data transmission from LCC 110A.	Problem has been corrected by EPRN 503-62. CLOSED OS-503-6

AS-503

TEST: FRT

DATE: November 19, 1968

IVAR	PROBLEM	STATUS AND RESOLUTION
FT27	Erroneous LDO was issued during the termination of FT27.	FT27 is suppose to issue Discrete to the final state indicated in the FU01 deck. FT27 appears to be using "TIME" as an LDO number. PTR V-866 has been generated.
DMON	IU DDAS is invalid.	C control words contain zeros. PTR V-870 has been generated.