

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

LXIV



PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM: 6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF., VWZD

SPECIAL INSTRUCTIONS

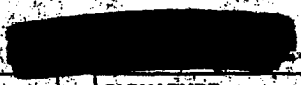
TO: SPACE SYSTEMS DIV, LOSA, CALIF.

SUBJECT: EIGHT-HOUR FLASH REPORT

1. SUMMARY *VWZD 185-235*

A VEHICLE CONSISTING OF SLV-2A BOOSTER NO. 364 AND S-01A ORBITAL STAGE NO. 1165 WAS LAUNCHED ON THE FOURTH ATTEMPT FROM VAFB COMPLEX 75-3, PAD 5, AT 152136.38 PDT, ON 18 MAY 1963. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE S-01A SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED; HOWEVER, THE ORBITAL PERIOD APPEARS TO BE 30 SEC ABOVE NOMINAL. BASED ON FIRST PASS ACQUISITION, THE VTS RADAR PLOT-BOARD INDICATED A NEAR-NOMINAL TRAJECTORY UP TO THE TIME OF RADAR FINAL LOSS, APPROXIMATELY 23 SEC BEFORE S-01A ENGINE SHUTDOWN.

DATE	TIME
18 May	
MONTH	YEAR
May	63



SYMBOL	TYPED NAME AND TITLE (Signature if required)	
	<i>Walter</i>	
PHONE	PAGE NO.	NR. OF PAGES
	1	8
SECURITY		

SIGNATURE
TYPED (or stamped) NAME AND TITLE
<p>DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10</p>

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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II. SIGNIFICANT EVENTS

PRELIMINARY VALUES OF SIGNIFICANT LAUNCH EVENTS

TIME	
SPY OFF (151136.38 PDT)	ZERO
WEB BURST ON SOLID MOTORS NO. 1	27.97 SEC
NO. 2	27.47 SEC
NO. 3	27.92 SEC
SOLID MOTOR THRUST TERMINATION NO. 1	41.92 SEC
NO. 2	41.22 SEC
NO. 3	41.22 SEC
SOLID MOTOR SEPARATION SIGNAL	70.47 SEC
SOLID MOTOR JETTISON	70.52 SEC
STEERING INFLATED	92.42 SEC
MECO (S-1)	147.18 SEC
VECO	156.22 SEC
SEPARATION COMMAND (S-1)	160.62 SEC
SEPARATION COMPLETE	163.7 SEC
ULLAGE ROCKET IGNITION	165.18 SEC
S-01A ENGINE IGNITION	168.18 SEC
S-01A THRUST ATTAINMENT (90 PER CENT FC)	169.26 SEC
BEGIN S-01A STEERING	179.87 SEC
END S-01A STEERING	316.07 SEC

SYMBOL	PAGE NO	NO OF PAGES	SECURITY CLASSIFICATION	INITIALS
VWZD	2	8	[REDACTED]	

DD FORM 173-1
 MAY 55

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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ENABLE S-61A VELOCITY METER	337.42 SEC
S-61A ENGINE SHUTDOWN (VELOCITY METER)	410.14 SEC
VTV VEHICLE TRACKER FADE	387 SEC
VTV VIDEO TRACKER FADE	424 SEC
VTV VIDEO TRACKER DATA FADE (LINK 1)	428 SEC
VTV VIDEO TRACKER SIGNAL STRENGTH FADE (LINK 2)	442 SEC

III. S-61A PERFORMANCE

ALL S-61A SUBSYSTEMS PERFORMED ADEQUATELY FOR ACHIEVEMENT OF THE PRIMARY TEST OBJECTIVES. ALL EVENTS, INCLUDING SOLID MOTOR BURNOUT AND JETTISON OCCURRED AT NOMINAL TIMES. MECG OCCURRED BY GROUND GUIDANCE COMMAND.

IV. GROUND GUIDANCE

GROUND GUIDANCE SYSTEM TENTATIVE EVALUATION OF INJECTION CONDITIONS AND ORBITAL PARAMETERS INDICATE INJECTION ALTITUDE OF 81.44 NM (PREDICTED VALUE WAS 89.37 NM), FLIGHT PATH ANGLE OF +0.12 DEG (PREDICTED VALUE WAS +0.14 DEG), ORBITAL PERIOD OF 91.88 MIN (PREDICTED VALUE WAS 90.72 MIN), AND INCLINATION ANGLE OF 74.13 EX DEG (PREDICTED VALUE WAS 74.99 DEG).

V. S-61A PERFORMANCE

ALL S-61A VEHICLE SUBSYSTEMS PERFORMED

SYMBOL: VWZD	PAGE NO: 3	NO. OF PAGES: 8	SECURITY CLASSIFICATION: [REDACTED]	INITIALS: [REDACTED]
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FROM
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SATISFACTORILY DURING LAUNCH TO PROVIDE ADEQUATE ORBITAL INJECTION CONDITIONS AT ENGINE SHUTDOWN. AT THE TIME OF TELEMETRY SIGNAL FADE AT VTS, THE ORBITAL TIMER WAS SET AT 5440 SEC (STEP 260) IN THE DECREASE POSITION, IN THE DECREASE MODE, AND ALTERED TO ENTRY DISARM STATE.

VI. SPACE-GROUND COMMUNICATIONS

RECEIVED SIGNAL STRENGTH ON ALL LINES WAS INSUFFICIENT TO PRODUCE ADEQUATE TELEMETRY DATA. VERBET RADAR EXPERIENCED LOSS OF TARGET'S TRACES DUE TO MOMENTARY BEACON TRANSMITTER DROPOUTS FOR REASONS UNKNOWN. BEACON CAPTURE BY THE DOWN-RANGE SHIP RADAR COULD NOT BE PREVENTED DUE TO FAILURE OF THE ANTI-BEACON CAPTURE UNIT FROM OPERATING SATISFACTORILY.

SYMBOL
VWZD

PAGE NO.
4

TOTAL NO. OF PAGES
8

EXTENSION

KEY INDEX

DD FORM 173-1
MAY 65

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

FROM: 6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF., VWZD

VE COUNTDOWN

LAUNCH WAS ACCOMPLISHED ON THE FOURTH COUNT-DOWN. THE FIRST COUNTDOWN WAS INITIATED AT 0455 PDT ON 7 MAY 1961 AND WAS CANCELLED IN TASK 14 (S-01A PROPELLANT TANKING) AT 1405 BY RANGE SAFETY (HIGH UPPER AIR WINDS). ONE HOLD WAS IMPOSED AT T-60 MIN FROM 1408 UNTIL 1409 BECAUSE OF THE WIND CONDITION. NO OTHER SIGNIFICANT PROBLEMS WERE ENCOUNTERED.

THE SECOND COUNTDOWN WAS INITIATED ON SCHEDULE AT 0540 PDT, S-01A, AND WAS CANCELLED AT 0950 PDT IN TASK (S-01A GUIDANCE AND CONTROL CHECKOUT) BY RANGE SAFETY (HIGH UPPER AIR WINDS). NO HOLDS WERE IMPOSED AND NO OTHER SIGNIFICANT PROBLEMS WERE ENCOUNTERED.

THE THIRD COUNTDOWN WAS INITIATED AT 0455 PDT, 17 MAY, AND PROGRESSED TO TASK 14 WHEN IT WAS CANCELLED AT 1350 DUE TO QUESTIONABLE INTEGRITY OF THE S-01A SEPARATION PRIMACORD. ONE HOLD (5 MIN) WAS IMPOSED AT 1340 TO DELAY S-01A TANKING UNTIL A DECISION WAS REACHED ON THE PRIMACORD. NO OTHER SIGNIFICANT PROBLEMS WERE ENCOUNTERED.

THE FINAL COUNTDOWN WAS INITIATED AT 0855 ON 18 MAY 1961 WITH A HOLD STATE, PENDING THE RECEIPT OF

SYMBOL

VWZD

PAGE

NO.

5

NO. OF

PAGES

8

SECURITY CLASSIFICATION

INITIALS

DD FORM 173-1

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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INFORMATION ON LMSC PRMAGORD QUALIFICATION TESTS.

LAUNCH STATUS WAS CHANGED TO GO AT 0730 WHEN INFORMATION WAS RECEIVED FROM SUNNYVALE THAT TESTS INDICATED THE PRMAGORD WAS SATISFACTORY. THE COUNT-DOWN THEN PROCEEDED TO LIFTOFF WITH TWO HOLDS TOTALING 23 MIN:

A. HOLD NO. 1, 19 MIN DURATION, WAS IMPOSED AT 1445 (T-15) TO COMPLETE WORK WHICH HAD FALLEN BEHIND SCHEDULE DUE TO DELAYS CAUSED BY LMSC AGE UMBILICAL AND GAS REGULATOR PROBLEMS.

B. HOLD NO. 2, 4 MIN DURATION, WAS IMPOSED AT 1515 PDT (T-3 MIN) BECAUSE OF ABNORMAL T/M INDICATION OF S-01A LIFEBOAT PRESSURE AND INTERMITTENT LOSS OF DAC TELEMETRY. THE DAC PROBLEM WAS AT THE NAVY TRACKING STATION AND IT CLEARED ITSELF BEFORE LIFTOFF. EVALUATION INDICATED THE S-01A LIFEBOAT MEASUREMENT WAS WITHIN LIMITS AND CONSIDERED GO.

OTHER PROBLEMS AND DELAYS ENCOUNTERED WERE:

A. IN TAKE 4, THE S-01A BEACON SIGNAL FREQUENCY KEENE READ INC LOW (OUT OF SPECIFICATION) AND REMAINED AT THIS LEVEL THROUGHOUT THE REMAINDER OF THE COUNTDOWN. BECAUSE THE DEVIATION WAS CONSTANT

SYMBOL VWZD	PAGE NO 6	NR OF PAGES 8	SECURITY CLASSIFICATION [REDACTED]	INITIALS
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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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AND THE RADAR COULD BE ADJUSTED TO THE NEW FREQUENCY IT WAS DECIDED NOT TO DELAY THE OPERATION TO MAKE CHANGES.

B. DURING S-81A OXIDIZER TANKING, TASK 14, A LEAK OCCURRED AT THE COUPLING WHICH JOINS THE FLEX PORTION OF THE S-81A ACID FILL BULLHEAD TO THE GROUND PORTION OF THE ACID FILL QUICK DISCONNECT. ALL ACID ABOARD THE VEHICLE AND IN THE TRANSFER LINE WAS RETURNED TO THE TRANSFER KIT. EVALUATION INDICATED THAT THE TORQUE VALUE OF THE FITTING WAS BELOW SPECIFICATION. TORQUING THE FITTING TO THE SPECIFICATION VALUE ELIMINATED THE LEAK. SOME ACID HAD RUN DOWN THE SIDE OF THE BLY-2A AND WAS OBSERVED TO HAVE BEEN RUN UNDER A TUNNEL COVER. THE BOTTOM PORTION OF THE TUNNEL COVER WAS REMOVED TO VERIFY THAT THE ACID HAD NOT CAUSED DAMAGE. THE ACID LEAK PROBLEM DELAYED THE OPERATION ABOUT ONE HOUR AND 58 MIN.

C. DURING TASK 14, THE COUNTDOWN WAS DELAYED 15 MIN TO SEND PERSONNEL TO THE PAD TO ADJUST TWO LMC AGE GUIDANCE GAS VENT REGULATORS.

D. DURING THE FINAL 40 MIN OF THE COUNTDOWN, THE PAYLOAD SKIN TEMPERATURE READ 45 TO 48 DEG F.

VWZD	PAGE NO.	NO. OF PAGES	SECURITY	INITIALS
	7	8		

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(SLIGHTLY BELOW SPECIFICATION). THE ABNORMAL TEMPERATURE INDICATION WAS VAILED.

WHL AEROSPACE GROUND EQUIPMENT

THE AEROSPACE GROUND EQUIPMENT FUNCTIONED SATISFACTORILY TO ACCOMPLISH THE BOOSTER AND ORBITAL STAGE PRE-LAUNCH CHECKOUT; HOWEVER, THE FOLLOWING PROBLEMS WERE ENCOUNTERED:

- A. AIR LEAK OCCURRED AT THE S-01A ACID QUICK DISCONNECT.
- B. THE LMSC AGE GUIDANCE GAS REGULATORS REQUIRED REPEATED RESETTING.

IK
WHL PAD DAMAGE

PAD DAMAGE IS NOT CONSIDERED EXCESSIVE AND NORMAL TURNAROUND SCHEDULE CAN BE MAINTAINED. A SMALL AFTER FIRE OCCURRED AT THE BASE OF THE LAUNCHER WHICH WAS EXTINGUISHED BY THE PAD DECK FLUSH.

SYMBOL

PAGE

NR

NR OF

PAGE

SECURITY CLASSIFICATION

INITIALS

8

8