

RVD 11-9 CL 6 OF 6 CTS

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

LXXVIII

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION: IMMEDIATE INFO: PRIORITY	BOOK	MULTI	SINGLE			
FROM:	X AF					

TO: SSZD, AEROSPACE TESTING VANDENBERG AFB CALIF
 SSD LOS ANGELES, CALIFORNIA

INFO: DOUGLAS AIRCRAFT CO., VANDENBERG AFB, CALIF (MESSENGER)
 LOCKHEED MISSILE & SPACE CO., VANDENBERG AFB, CALIF (MSGR)
 BELL TELEPHONE LABORATORY, VANDENBERG AFB, CALIF (MESSENGER)

SPECIAL INSTRUCTIONS

WVZD 1 CY
 WWS 1 1
 WVZE/LMSC 1 CY
 WVZE 1 CY COME BACK

This material contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

SECRET WVZE - 63-4-112, SSD FOR SSZD, DAC FOR STEVE ABELAS, LMSC FOR MR. GAVLAK (63-01), BTL FOR BOB PRESKITT, SUBJECT: EIGHT HOUR FLASH LAUNCH REPORT. THIS MSG IN NINE PARTS. PART I, SUMMARY. A VEHICLE CONSISTING OF LV-2A BOOSTER NO. 396 AND SS-01A ORBITAL STAGE NO. 1604 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VANDENBERG AFB COMPLEX 75-3, PAD 8, AT 1623:43.55 PDT ON 27 APR 1964. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE SS-01A SATELLITE WITH PAYLOAD INTO A SPECIFIED ORBIT WAS ACHIEVED. TELEMETRY AND GROUND GUIDANCE DATA INDICATED THAT A NEAR NOMINAL TRAJECTORY WAS FOLLOWED THROUGH INJECTION. INFORMATION FROM THE FIRST PASS ACQUISITION INDICATED THE ATTAINMENT OF A NEAR NOMINAL ORBIT AND

DOWNGRADED AT 3 YEAR INTER.
 VALS; DECLASSIFIED AFTER
 12 YEARS.
 DOD DIR 5200.10

DATE	TIME
27	
MONTH	YEAR
APR	1964

SYMBOL		SIGNATURE	
WVZE			
TYPED NAME AND TITLE (Signature, if required)		TYPED (or stamped) NAME AND TITLE	
ROBERT L. BEERS, LT COL USAF		FRANCIS L. WRIGHT	
SECURITY CLASSIFICATION		MAJOR, USAF	
		CHIEF, THOR/AGENA PROJECTS OFFICE	

JOINT MESSAGEFORM CONTINUATION SHEET

SECURITY CLASSIFICATION

FROM:

5585 AECROSTRESSING WAREHOUSE AFB, CALIF

THAT THE BASIC VEHICLE SUBSYSTEMS WERE FUNCTIONING NORMALLY. VEHICLE PERFORMANCE AND SEQUENCE OF EVENTS ARE BASED ON QUICK-LOOK INFORMATION AND ARE SUBJECT TO CHANGE. PART II SEQUENCE OF EVENTS: PRELIMINARY VALUES OF SIGNIFICANT EVENTS ARE:

	<u>ACTUAL</u>	<u>PREDICTED</u>
LIFTOFF		
SYSTEM TIME	89,233.55	82,800
PDT	1629:43.55	1600:00
WEB BURST OF SOLID MOTORS	27.90	27.71
THRUST TERMINATION OF SOLID MOTORS	41.45	40.71
JETTISON OF SOLID MOTORS	65.10	68.00
LV-2A STEERING INITIATED	92.84	92.00
LV-2A STEERING TERMINATED	142.60	143.39
S-1 COMMAND FOR MECO	146.14	147.39
MECO (COMMAND SHUTDOWN)	146.24	147.39
VECO	155.13	156.39
SEPARATION COMMAND (S-2)	159.89	160.39
SEPARATION COMPLETE	162.36	162.89
WELAGE ROCKET IGNITION	164.06	165.39
SS-01A ENGINE IGNITION	167.06	168.39
SS-01A THRUST ATTAINMENT (90% Pc)	168.24	169.68
SS-01A STEERING INITIATED	178.27	183.00
SS-01A STEERING TERMINATED	347.36	353.07
SS-01A VELOCITY METER ENABLE	348.60	353.07
SS-01A ENGINE SHUTDOWN BY VELOCITY METER	407.45	408.89
VIS VERLOK RADAR LOSS OF TRACK	405	N/A

DOWNGRADED AT 3 YEAR INTER.
VALS; DECLASSIFIED AFTER
12 YEARS.
DOD DIR 5200.10

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MAY 55

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

FROM

5596 AEROSPACE TESTING WAREHOUSE AFB, CALIF



	<u>ACTUAL</u>	<u>PREDICTED</u>
VIS ACQUISITION BEACON FAIL	427	N/A
VIS TELEMETRY DATA FAIL (LINK 1)	448	N/A
VIS TELEMETRY SIGNAL FAIL (LINK 2)	452	N/A

DO NOT WRITE IN THESE SPACES
 VALUE OF THIS REPORT AFTER
 DD FORM 173-1 500010

PART III. LV-3A PERFORMANCE. ALL LV-3A SUBSYSTEMS PERFORMED ADEQUATELY FOR ATTAINMENT OF THE FLIGHT TEST OBJECTIVES. THRUST WAS NORMAL. MAIN ENGINE CUTOFF (MECO) OCCURRED AT 146.14 SEC AS PLANNED BY COMMAND GUIDANCE. PROPELLANT UTILIZATION WAS NORMAL. VIBRATIONS WERE HIGHER THAN USUAL. 18-20 CPS VIBRATIONS IN MAIN ENGINE CHAMBER PRESSURE WERE RECORDED FROM 126.45 SEC UNTIL 139.38 SEC WITH A 35 DBA PEAK TO PEAK LEVEL AT 132.93 SEC. OSCILLATIONS IN LONGITUDINAL ACCELERATION WERE OBSERVED OF THE ORDER OF 18.5 TO 19 CPS BETWEEN 114 AND 139 SEC. MAXIMUM PEAK TO PEAK ACCELERATION WAS APPROXIMATELY 4.8 G'S. SOLID MOTOR PERFORMANCE WAS SATISFACTORY. PART IV. COMMAND GUIDANCE. PERFORMANCE OF THE COMMAND GUIDANCE SYSTEM WAS SATISFACTORY. STEERING ORDERS WERE INITIATED AT 82.84 SEC WITH PITCH DOWN AND YAW RIGHT. AFTER 4 SEC OF MODERATE STEERING CORRECTIONS VEHICLE RESPONSE WAS NORMAL. COMMAND FOR MECO (S-1) WAS TRANSMITTED AT 146.14 SEC AND COMMAND FOR SEPARATION (S-2) FOLLOWED AT 159.89 SEC. SECOND STAGE STEERING BEGAN AT 178.17 SEC AND TERMINATED AT 347.36 SEC. STEERING ORDERS WERE EXTREMELY LIGHT THROUGHOUT GUIDANCE PORTION OF THE FLIGHT. COMMAND FOR VELOCITY METER ENABLE (S-3) OCCURRED AT 348.60 SEC. QUICK-LOOK EVALUATION OF THE TRAJECTORY VECTOR AT

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JOINT MESSAGEFORM - CONTINUATION SHEET

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FROM:

6305 AIRCRAFT TESTING TOWER BLDG AFB, CALIF

GUIDANCE TERMINATION PROVIDED THE FOLLOWING VALUES: INJECTION ALTITUDE OF 100.127 NM (NOMINAL 100.37 NM), INJECTION FLIGHT PATH ANGLE OF 5.286 MILLIRAD. (NOMINAL 16.28 MILLIRAD.) ORBITAL PERIOD OF 91.079 MIN (NOMINAL 90.85 MIN) AND ORBITAL INCLINATION ANGLE OF 79.937 DEG (90.0 DEG). PART V. SS-01A PERFORMANCE. ALL SS-01A VEHICLE SUBSYSTEMS PERFORMED ADEQUATELY DURING LAUNCH TO ACHIEVE ORBITAL INJECTION. THRUST LEVELS WERE NORMAL. BURN DURATION WAS 234.21 SEC, AS EXPECTED. ENGINE SHUTDOWN OCCURRED AS A RESULT OF VELOCITY METER COMMAND AT 107.45 SEC. SHORTLY AFTER SEPARATION COMMAND APPROX 180 SEC AND AGAIN AT 168.45 SEC LARGE CURRENT SURGES CONSIDERABLY EXCEEDED THE BANDWIDTH FOR A PERIOD OF 500 AND 60 MILLISECOND RESPECTIVELY. EXCEEDING MAXIMUM BANDWIDTH INDICATES A CURRENT DRAIN IN EXCESS OF 50 AMPERES. OTHER THAN THE TWO LARGE CURRENT SURGES THE CURRENT DRAIN WAS ERRATIC AND HELD BETWEEN 20 AND 30 AMPERES UNTIL 164 SEC WHEN THE CURRENT RETURNED TO A NORMAL VALUE OF 15 AMPERES. AT APPROXIMATELY 179 SECONDS ANOTHER CURRENT SURGE WAS NOTED WHICH REACHED ABOUT 35 AMPERES FOR A DURATION OF 750 MILLISECOND. AT THIS SEPARATION SHORT THE PYRO BUS VOLTAGE INDICATED ZERO BUT ALL PYRO FUNCTIONS APPEAR TO HAVE OCCURRED AND PYRO CURRENT REMAINED AT ABOUT 9 AMPERES INDICATING A PYRO BUS VOLTAGE MONITOR FAILURE. AT THE TIME OF TELEMETRY SIGNAL FAIL AT VTS, THE ORBITAL TIMER WAS SET AT 5452 SEC (STEP 289) IN THE RESET DISABLED POSITION, IN THE INCREASE MODE, AND RE-ENTRY DISABLED STATE. PART VI. SPACE-GROUND COMMUNICATIONS.

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

FROM

6585 AEROSPACETESTING, VANNEBUENEN AFB, MISS.

6881 11/11/64
38277-101

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12 YEARS.
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TELEMETRY DATA FROM ALL LINKS WERE SATISFACTORILY RECEIVED AND
RECORDED. VEHICLE RADAR TRACK OF THE S-BAND BEACON WAS MAINTAINED
UNTIL HORIZON FADE. PART VII. COUNTDOWN. THE COUNTDOWN
WAS INITIATED AT 0815 PDT ON 27 APR 1964 AND PROCEEDED TO LIFT-
OFF WITH TWO HOLDS. HOLD NO. 1 WAS IMPOSED AT T-60 MIN FROM
1953 TO 1815 PDT TO FINISH REPLACING THE OXIDIZER FILL LINE THAT
HAD BEEN LEAKING. HOLD NO. 2 WAS IMPOSED AT T-15 MIN FROM 1801
TO 1808 PDT TO ALLOW THE PAD CREW TO RETURN TO THE PAD TO ADJUST
THE PNEUMATIC REGULATORS. PART VIII. AEROSPACE GROUND EQUIPMENT
(AGE). THE AGE FUNCTIONED SATISFACTORILY TO SUPPORT CHECKOUT AND
LAUNCH OF THE VEHICLE WITH ONE MAJOR EXCEPTION: THE OXIDIZER
FILL LINE DEVELOPED A LEAK UNDER THE METAL SHROUD. REPLACEMENT
OF THE FILL LINE WAS NECESSARY, THEREBY CAUSING A HOLD IN THE
COUNTDOWN. PART IX. PAD DAMAGE. PAD DAMAGE WAS NORMAL FOR A
LV-2A LAUNCH AND THE PAD TURNAROUND SCHEDULE CAN BE MAINTAINED.

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