

L MSC 8030706
COPY 4 OF 9

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

LXX

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

FROM: 695TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF., VWZD

TO: SPACE SYSTEMS DIV, LOSA CALIF.

SUBJECT: NIGHT-HOUR FLASH REPORT

I. SUMMARY Uu. 20-29-8-370

A VEHICLE CONSISTING OF SLV-2 BOOSTER NO. 394 AND S-01A ORBITAL STAGE NO. 1169 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VAIB COMPLEX 3, PAD 5, AT 1331:03.92 PDT, ON 29 AUGUST 1963. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE S-01A SATELLITE WITH PAYLOAD IN A NEAR-POLAR CIRCULAR ORBIT, WAS ACCOMPLISHED, HOWEVER, TWO ANOMALIES WERE NOTED DURING ASCENT.

1. THE S-01A EXPERIENCED A SEVERE ELECTRICAL TRANSIENT FOR 6.8 SEC DURING SEPARATION.
2. THE SHUTDOWN OF THE S-01A ENGINE WAS ABNORMAL.

SPECIAL INSTRUCTIONS

THE VTS RADAR EJECTOR BOARD INDICATED THE FOLLOWING

DATE	TIME
25	
MONTH	YEAR
Aug	63

APPROXIMATE INJECTION CONDITIONS: ALTITUDE 194.5

SYMBOL	SIGNATURE
TYPED NAME AND TITLE (Signature, if required): Maj. F. L. Wright, USAF	TYPED (or stamped) NAME AND TITLE
PHONE: 866-3773	DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10
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STATUTE MILES; PAD REFERENCED VELOCITY, 25,420 FPS;
 ELEVATION FLIGHT PATH ANGLE, APPROXIMATELY +0.5 DEG.
 AZIMUTH FLIGHT PATH ANGLE, APPROXIMATELY 173.5 DEG.
 THE ORBITAL PERIOD APPEARS TO BE NEAR-NOMINAL, BASED
 ON FIRST PASS OBSERVATION.

II. SIGNIFICANT EVENTS

THE OCCURRENCE OF SIGNIFICANT LAUNCH EVENTS ARE
 AS FOLLOWS:

LIFTOFF (135103.92 PST) (SYSTEM TIME 73063-92)	ZERO	
STEERING INITIATED	92.51	SEC
STEERING TERMINATED	143.72	SEC
WECO (S1)	147.32	SEC
YECO	156.26	SEC
REGULATION COMMAND (S1)	169.67	SEC
BEGINNING OF APPARENT SHORT	160.77	SEC
END OF APPARENT SHORT	161.52	SEC
SEPARATION COMPLETE	162.85	SEC
ULLAGE ROCKET IGNITION	186.24	SEC
S-01A ENGINE IGNITION	189.24	SEC
S-01A THRUST ATTACHMENT	190.41	SEC
STEERING INITIATED	200.36	SEC
STEERING TERMINATED	215.89	SEC

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VELOCITY METER ERROR (S)	420.90	SEC
S-21A CUTOFF GENERATED BY VELOCITY METER	431.91	SEC
S-21A CUTOFF ACCOMPLISHED (70 PER CENT PG)	452.11	SEC
VTS VELOCITY RADAR FADE	500	SEC
VTS ACQUISITION RADAR FADE	531	SEC
VTS TELEMETRY DATA FADE (LINE 1)	532	SEC
VTS TELEMETRY SIGNAL FADE (LINE 2)	592	SEC

HL SLV-3

ALL SLV-3 SUBSYSTEMS PERFORMED ADEQUATELY FOR ACHIEVEMENT OF THE PRIMARY TEST OBJECTIVES. MAIN ENGINE CUTOFF (MECO) OCCURRED IN RESPONSE TO THE GROUND GUIDANCE COMMAND AS PREDICTED.

IV. COMMAND GUIDANCE

PERFORMANCE OF THE COMMAND GUIDANCE SYSTEM APPEARS TO HAVE BEEN SATISFACTORY. ~~THIS SYSTEM~~ ^{PRO} ~~PERFORMANCE~~ ^{QUICK LOOK} EVALUATION OF THE TRAJECTORY VECTOR AT GUIDANCE TERMINATION PREDICTED THE FOLLOWING VALUES: INJECTION ALTITUDE OF 145.306 NM (NOMINAL 144.62 NM), INJECTION FLIGHT PATH ANGLE OF -0.215 DEG (NOMINAL ZERO DEG), ORBITAL PERIOD OF 91.215 MIN (NOMINAL 90.61 MIN), AND

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449TH AIRSPACE TEST WING, VANDENBERG AFB, CALIF.

ORBITAL INCLINATION ANGLE OF 81.908 DEG (NOMINAL;
81.94 DEG).

PRELIMINARY ORBITAL DATA BASED ON EARLY PASSES
PROVIDE THE FOLLOWING VALUES: PERIGEE ALTITUDE OF
162 KM, APOGEE ALTITUDE OF 189 KM, ECCENTRICITY OF
0.002, PERIOD OF 90.82 MIN, AND INCLINATION ANGLE OF
81.9 DEG.

V. G-1A PERFORMANCE

ALL G-1A VEHICLE SUBSYSTEMS PERFORMED ADEQUATELY
DURING LAUNCH TO ACHIEVE ORBITAL INJECTION, HOWEVER
TWO ANOMALIES WERE EVIDENT DURING ASCENT.

AN EXCESSIVE CURRENT TRANSIENT OCCURRED FOR 0.75
SEC FOLLOWING THE INITIATION OF SEPARATION. THE CURRENT
MONITOR INDICATED A CURRENT FLOW IN EXCESS OF 30 AMPS
DURING THIS INTERVAL. THIS CURRENT DRAIN WAS REFLECTED
AS A 1.6 VOLT DROP IN THE UNREGULATED 28V BUS VOLTAGE
DURING THE SAME INTERVAL.

IT APPEARS THAT NO PERMANENT DAMAGE RESULTED
FROM THIS APPARENT SHORT.

AN ANOMALY WAS OBSERVED IN THE NATURE
OF THE ENGINE SHUTDOWN. A SHUTDOWN SIGNAL WAS

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6395TH AEROSPACE TEST WING, VANNUSS AFB, CALIF.

TRANSMITTED BY THE VELOCITY METER TO THE ENGINE RELAY BOX AND WAS OBSERVED TO HAVE ACTUATED THE SHUTDOWN RELAY, BUT ACTUAL SHUTDOWN WAS DELAYED UNTIL 0.2 SECONDS LATER. THIS TIME DELAY IS DEDUCTIVE OF A SLOW CLOSURE OF THE FUEL VALVE AND IT RESULTED IN A POST-SHUTDOWN VELOCITY GAIN OF 22 FPS AS COMPARED WITH THE EXPECTED 12 FPS. THAT AN EXCESS OF 23 FPS IN EJECTION VELOCITY IS ATTRIBUTABLE TO THE SLOW SHUTDOWN.

AT THE TIME OF TELEMETRY SIGNAL FADE AT 715, THE GENERAL TIMER WAS SET AT 5415 SEC. (STEP 240) IN THE REST OR POSITION IN THE DECREASE MODE, AND RE-ENTRY DEARABLE POSITION.

VI. SPACE-GROUND COMMUNICATIONS

TELEMETRY DATA FROM ALL LINKS WERE SATISFACTORILY RECEIVED AND RECORDED. VELOCITY RADAR MAINTAINED CONTINUOUS BEACON TRACK UNTIL HORIZON SIGNAL FADE AT 500 SEC.

VII. COUNTDOWN

THE COUNTDOWN WAS INITIATED AT 0130 PDT ON 29 AUGUST 1962 AND PROCEEDED TO LIFTOFF WITH ONE MANUAL TECHNICAL HOLD BEING IMPROVED IN FRAME 1 OF TERMINAL

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4891 TH AIRCRAFTS THAT WERE REPROGRAMMED AND CALLED

OPERATION OF A PRESSURE SWITCH ON THE LAUNCHER

MECHANICAL TAPPING OF THE SWITCH RETURNED OPERATION TO NORMAL.

0001 200
0001 200 S

TASK 6 WAS DELAYED IN NON DUE TO AN ABNORMAL BLOCKING INDICATION OF THE S-61A TRANSPONDER RESPONSE DURING OPEN LOOP CHECK. NORMAL TRANSPONDER RESPONSE WAS VERIFIED AT VTS.

VII. AIRSPACE GROUND EQUIPMENT (AGE)

THE AGE PERFORMED SATISFACTORILY TO SUPPORT CHECKOUT AND LAUNCH OF THE VEHICLE WITH ONE EXCEPTION.

IN PHASE 1 OF TERMINAL COUNTDOWN A MECHANICAL MALFUNCTION OCCURRED IN THE SLY-2 HYDRAULIC GROUND SUPPLY PRESSURE SWITCH WHICH IS LOCATED ON THE LAUNCHER. SLIGHT MECHANICAL TAPPING OF THE SWITCH RETURNED IT TO NORMAL OPERATION.



IX. PAD DAMAGE

PAD DAMAGE WAS NORMAL FOR A NON-FAST LAUNCH AND THE PAD TEMPERATURE VERIFIABLE CAN BE MAINTAINED.

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