PAGE TWO AFA

AN INJECTION FLIGHT PATH ANGLE OF ABOUT ZERO DEG. AND
A DEPARTURE AZIMUTH OF APPROXIMATELY 172 DEG.
RECEIVED SIGNALS AT KENNEDY, ARCTIC AND HAWAII HAVE
CONFIRMED ORBIT STATUS THROUGH RECESSION OF
TELEMETRY AND RADAR RECONNAISSANCE SIGNALS ON THE FIRST
ORBIT. THE ORBIT ATTAINED APPEARS TO BE VERY
CLOSE TO NOMINAL.

LIST OF SIGNIFICANT LAUNCH EVENTS FOLLOWS:

LIFTOFF (12:35:52.17 PDT)
ZERO
STEERING INITIATED
ECO (51)
ECO
ENABLE D1 AND D2 (32)
D1 ON
D2 OFF
SPLITTER COMMAND (85)
AGENA INJECTION (50 PER
SENT PO)
AGENA BURNOUT (70 PER
PAGE FOUR VAP6

1. BOOSTER STEERING AND GUIDANCE SYSTEMS WERE
GENERATED AND TRANSMITTED SATISFARCTORILY BY THE
GROUND GUIDANCE SYSTEM AND VEHICLE RESPONSE TO THE
COMMANDS APPEARS TO HAVE BEEN PROPER. RECO
RECEIVED AT 145.84 SEC AS A RESULT OF COMMAND FROM
GROUND GUIDANCE SYSTEM. VEHICLE ENGINE START OPER-
ATION LIFTED 1.40 SEC WITH VEHICLE OCCURRING AT 144.94
SEC. SEPARATION WAS INITIATED BY A GROUND GUIDANCE
COMMAND AT 161.49 SEC. GROUND GUIDANCE SYSTEM DATA
INDICATE THE BOOSTER COAST APOGEE ALTITUDE WAS
107,44 MD. (NORMAL: 107,49 MD) AND THE BOOSTER COAST
APOGEE VELOCITY WAS 9915 FPS (NORMAL: 9974 FPS).

2. ASCEND SATELLITE VEHICLE - OBJECTIVES ACHIEVED

- 1. ASCEND AIRFRAME AND ADAPTER

- STRUCTURAL INTEGRITY WAS MAINTAINED AND
- NO EXCESS LOADS WERE APPLIED. THE USUAL 10-25 Gs
- VEHICLE UNSTABILIZED OSCILLATIONS WERE PRESENT DURING
- THE FIRST STAGE PERIOD. ALL PYROTECHNIC FUNCTIONS
- OCCURRED AT APPROXIMATELY NORMAL TIMES. THE
- RETRO-ROCKETS SATISFACTORYY PRODUCED THE THRUST

PAGE 5 VAP6

RECEIVED FOR COMPLETE SEPARATION BY 163.43 SEC.

2. ASCEND PROPULSION SYSTEM

- ASCEND ROCKET ENGINE WAS SATISFACTORY.
- ASCEND ROCKET IGNITION OCCURRED IN A NORMAL MANNER AT
- 142.76 SEC AND 95 PERCENT CHAMBER PRESSURE WAS
- ACHIEVED WITHIN 1.2 SEC. THE ENGINE OPERATED
- SATISFACTORY FOR 237.7 SEC AND SHUTDOWN WAS SIGNALED
- AT 481.5 SEC BY THE INTEGRATOR. THE SHUTDOWN BEHAV-
- IOR WAS ABNORMAL IN THAT THRUST DECREASED SLOWLY
- AFTER THE CLOSING OF THE SHUTDOWN RELAY, REDUCING
- TO 90 PER CNT IN APPROXIMATELY 5.5 SEC. THEN
- DRIVING SHARPLY TO HER. THE SLOW SHUTDOWN
- RESULTED IN AN EXCESS INJECTION VELOCITY.

3. ASCEND ELECTRICAL POWER SYSTEM

- NO EVIDENCE OF ASCEND ELECTRICAL POWER SYSTEM
- PROBLEMS HAS BEEN NOTED.

4. ASCEND GUIDANCE AND FLIGHT CONTROL SYSTEM

- THE ASCEND GUIDANCE SYSTEM RESPONDED PROPERLY
- TO A 6,93 SEC TIME-TO-FIRE CORRECTION AND A 3,49 SEC
- VELOCITY-TO-BE-GAINED CORRECTION COMMANDED BY THE
- ASCEND AIRFRAME.
PAGE THREE VAFB

I. OBJECTIVES WERE ACHIEVED AS FOLLOWS:

II. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST

1. BOOSTER - OBJECTIVE ACHIEVED

2. AGENA SATELLITE VEHICLE OBJECTIVES ACHIEVED

3. AGENA PROPULSION SYSTEM

4. AGENA AIRFRAME AND ADAPTER

5. VEHICLE POSITION WAS WITHIN A SPHERE OF 5 RN RADIUS,

6. VEHICLE POSITION WAS WITHIN 3 RN RADIUS,

7. FLYING PATH ANGLE WAS WITHIN PLUS OR MINUS 4 DEG.,

8. VELOCITY WAS WITHIN 520 FPS OF THE NOMINAL VALUE,

9. Booster steering and event commands were

10. Booster ignition and liftoff were satisfactory.

11. Throttle roll program and pitch program appear to

12. Have been properly executed. At main engine cutoff,

13. Vehicle altitude was 194,000 ft (nominal 196,000)

14. And the booster coast apogee velocity was 5705 FSPS

15. (Nominal 5791 FSPS.)

16. VEHICLE POSITION WAS WITHIN 5 RN RADIUS,

17. FLYING PATH ANGLE WAS WITHIN PLUS OR MINUS 4 DEG.,

18. VELOCITY WAS WITHIN 520 FPS OF THE NOMINAL VALUE,

19. Boiler steering and event commands were

20. Generated and transmitted satisfactorily by the

21. Ground Guidance System and vehicle response to the

22. Commands appears to have been proper. No event occurred

23. At 144.17 SEC AS A RESULT OF COMMAND FROM GROUND GUI-
PAGE FIVE:

FAILURE OF THE HIGH RANGE CONTROL GAS PRESSURE MEASURE-
MENT AT T-PLUS 278 SEC DOES NOT PERMIT DIRECT VERIFI-
ATION OF GAS USAGE SUBSEQUENT TO THIS TIME. ENGINE
THROTTLE WAS COMMAND BY THE INTEGRATOR AFTER
THE REQUIRED VELOCITY INCREMENT HAD BEEN GAINED.

HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.

PAGE SIX:

FAILURE OF THE HIGH RANGE CONTROL GAS PRESSURE MEASU-
REMENT AT T-PLUS 278 SEC DOES NOT PERMIT DIRECT VERIFI-
ATION OF GAS USAGE SUBSEQUENT TO THIS TIME. ENGINE
THROTTLE WAS COMMAND BY THE INTEGRATOR AFTER
THE REQUIRED VELOCITY INCREMENT HAD BEEN GAINED.

HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.

PAGE SEVEN:

FAILURE OF THE HIGH RANGE CONTROL GAS PRESSURE MEASU-
REMENT AT T-PLUS 278 SEC DOES NOT PERMIT DIRECT VERIFI-
ATION OF GAS USAGE SUBSEQUENT TO THIS TIME. ENGINE
THROTTLE WAS COMMAND BY THE INTEGRATOR AFTER
THE REQUIRED VELOCITY INCREMENT HAD BEEN GAINED.

HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.

PAGE EIGHT:

FAILURE OF THE HIGH RANGE CONTROL GAS PRESSURE MEASU-
REMENT AT T-PLUS 278 SEC DOES NOT PERMIT DIRECT VERIFI-
ATION OF GAS USAGE SUBSEQUENT TO THIS TIME. ENGINE
THROTTLE WAS COMMAND BY THE INTEGRATOR AFTER
THE REQUIRED VELOCITY INCREMENT HAD BEEN GAINED.

HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.

PAGE NINE:

FAILURE OF THE HIGH RANGE CONTROL GAS PRESSURE MEASU-
REMENT AT T-PLUS 278 SEC DOES NOT PERMIT DIRECT VERIFI-
ATION OF GAS USAGE SUBSEQUENT TO THIS TIME. ENGINE
THROTTLE WAS COMMAND BY THE INTEGRATOR AFTER
THE REQUIRED VELOCITY INCREMENT HAD BEEN GAINED.

HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.
AGE SEVEN VAFB

COMPLETED DURING THE COUNTDOWN; HOWEVER, THE

DELIVERY PROBLEMS WERE ENCOUNTERED:

1. DURING TASK 15 (SECURE PROPellant TRANSFER

ETS) A SMALL VENT LEAK OCCURRED IN THE FUEL PILL

BILICAL LINE (AGE). THE VENTILAL WAS REMOVED FROM

THE SYSTEM AND THE LEAK WAS REPAIRED.

AT NINETY-ONE MILES THE VAFB NORTHERN GROUND

OPERATING TIME OF 3.8 HRS. HOLD NO. 1 (36 HIN DURAT-

ION) WAS IMPOSED AT T-26 SEC (1546 PDT). TWENTY-

FIVE (30) SEC OF THE PERIOD WAS USED TO COMPLETE

CHECKOUT WHICH WAS TAKEN BEHIND SCHEDULE DUE TO

ADDITIONAL EVALUATION TESTS ON THE K-TIMER, AND TO

THE PROBLEM ENCOUNTERED DURING TASK 7 IN RESETTING


HOLD NO. 2 (15 MIN DURATION) WAS IMPOSED AT T-15 MIN

(1544 PDT) FOR RANGE SAFETY (TRAIN).

HOLD NO. 3 (15 MIN DURATION) WAS IMPOSED IN PHASE V AT

T-2 MIN 40 SEC (1550 PDT) FOR RANGE SAFETY (TRAIN).

COUNTDOWN WAS RECYCLED TO START OF PHASE V.

HOLD NO. 4 (15 MIN DURATION) WAS IMPOSED IN PHASE V AT

T-36 SEC (1550 PDT) AND 10 HIN DURATION DUE TO INTERMITTENT INDICATION OF

THOR-100 PER CENT LOAD MEASUREMENT PROBLEM

REQUESTED FROM HOLD NO. 3 BEING IMPOSED AFTER LOAD MEASUREMENT-100 PER CENT.

COUNTDOWN WAS RECYCLED TO START OF PHASE V.

HOLD NO. 5 (15 MIN DURATION) WAS IMPOSED IN PHASE V

AT T-26 SEC (1550 PDT) DUE TO ABNORMAL INDICATION OF

THOR-100 PER CENT LOAD MEASUREMENT. ONE MIN

AFTER THE HOLD WAS IMPOSED THE RANGE WAS CLOSED DUE

TO TRAIN. COUNTDOWN WAS RECYCLED TO START OF PHASE V.

AND PROCEEDED TO NORMAL LEFTOFF.