



PROJECT W/FAIRWAYS ARE CALD  
VWZ/DEL. SERIAL/REMARKS IS FOR COL. WIGGILL.

PROJECT C-14 REPORT ON LAUNCHING OF DISCOVERER

DATE / TIME LEFT PAPER

DISCOVERER RYAN ORIENTATION OF TRACK ROCKET NO. 207 AND  
AGORA'S SERIAL NO. 1111 WAS LAUNCHED FROM COMPLEX

724. 207 AT 17:45 ON 3 AUGUST 1961. THE PRIMARY  
PURPOSE WAS TO PLACE THE DISCOVERER SATELLITE WITH

VELOCITY OF APPROXIMATELY 7.5 KM  
PER SECOND AT APPROXIMATELY 7.5 KM

AND CON-  
TAINERS OF VEHICLE ATTITUDE CONTROL. THE SEVERE

VEHICLE ATTITUDE CHANGES AFTER LOSS OF CONTROL APPARENTLY  
CAUSED THE ENGINE SHUTDOWN. THE VEHICLE DID NOT

ACHIEVE DESIRED VELOCITY  
1. PRELIMINARY DATA INDICATES THAT THE LAUNCH TEST

OBJECTIVE WAS ACHIEVED AS FOLLOWS / REPRODUCED DETAILED  
DESCRIPTIONS: (SEE APPENDIX 1)

A. DISCOVERER RYAN - OBJECTIVE ACHIEVED.  
1.1 VEHICLE POSITION WAS WITHIN 5 NAUTICAL MILES,

FLIGHT PATH ANGLE WAS WITHIN 1 DEGREE, AND VELOCITY WAS  
WITHIN 500 FT OF THE NOMINAL VALUE AT SHUTTER ENGINE

[Redacted signature area]

[REDACTED]

[REDACTED]

**ACCELERATION RECORDS ARE CALLED**

ACCELERATION RECORDS AND EVENT COMMANDS APPEAR TO HAVE BEEN SATISFACTORILY TRANSMITTED BY THE GROUND COMMAND SYSTEM AND FREELY RESPONDED TO THE COMMAND SIGNALS TO REVERSE THRUST. SHOCK OCCURRED AT T PLUS

10.1 SECONDS AFTER THE LOSS OF GROUND COMMAND. DELAYED BY THE LOSS OF GROUND COMMAND WAS 0.1 SECONDS AFTER WHICH THE ACCELERATION RECORDS FROM THE BOOSTER WAS RECEIVED AT T PLUS 10.2 SECONDS BY DISCRETE COMMAND.

NO ACCELERATION RECORDS WERE APPARENT IN ACCELEROMETER DATA INTERMITTENTLY FROM T PLUS 10.2 SECONDS AND CONTINUOUSLY FROM T PLUS 10.2 SECONDS TO T PLUS 10.1 SECONDS. MAXIMUM PEAK-TO-PEAK AMPLITUDE OF THE OSCILLATIONS IN THE ACCELERATION RECORDS WAS APPROXIMATELY 1.0 G.

**B. AIRFRAME AND ADAPTER - OBSERVATION PARTIALLY ACHIEVED.**

NO EVIDENCE OF STRUCTURAL PROBLEMS IN THE AIRFRAME OR ADAPTER HAS BEEN NOTED. THE ACCELERATION LOADS AFTER THE LOSS OF ATTITUDE CONTROL ARE OF SUFFICIENT MAGNITUDE THAT AIRFRAME DAMAGE IS POSSIBLE.

**C. AIRFRAME PROTECTION SYSTEMS - OBSERVATION PARTIALLY ACHIEVED.**

[REDACTED]

THE RESEARCH AND DEVELOPMENT DIVISION SECRETARIES  
FOR GENERAL PURPOSES OPERATING UNDER NORMAL SYSTEM  
CONDITIONS IN A NORMAL MANNER AT 7:15 P.M. 11.2.50. THE  
OPERATION APPEARS TO BE NORMAL UNTIL 7:15 P.M. 11.2.50.  
AT 7:15 P.M. 11.2.50 THE OPERATOR WAS  
ABRUPTLY TAKEN BY THE VEHICLE ATTITUDE CHANGING  
AFTER LOSS OF ENGINE POWER CONTROL. AS A RESULT OF THE  
LOSS OF ENGINE POWER CONTROL AND THE ENGINE  
SHUTTING DOWN, THE ENGINE VELOCITY CAN BE  
ENGINE OPERATOR WAS ONLY ABOUT 12,000 RPM. THE VEHICLE  
TOTAL VELOCITY AT ENGINE SHUTDOWN WAS CONSEQUENTLY NOT  
SUFFICIENT FOR ORBIT.

B. AGMA ELECTRICAL POWER SYSTEM - CHECKED PARTIALLY  
REMOVED.

NO EVIDENCE OF AGMA ELECTRICAL POWER SYSTEM  
PROBLEMS WERE NOTED.

C. AGMA GUIDANCE AND FLIGHT CONTROL SYSTEM - CHECKED  
PARTIALLY REMOVED.

(1) THE AGMA GUIDANCE SYSTEM PROPERLY RESPONDED  
TO A 1.5 SECOND TURN TO THE CORRECTION AREA 1.4  
VELOCITY TO BE OBTAINED ON THE COMMAND BY GROUND

[REDACTED] [REDACTED]



6565 TEST WING VANDENBERG AFB CALIF

THE AGENA TELEMETRY SIGNAL WAS RECEIVED AND  
RECORDED BY THE VANDENBERG TRACKING STATION FROM LIFT-  
OFF TO T PLUS 522 SECONDS. FLIGHT DATA RECORDS ARE  
SATISFACTORY EXCEPT FOR THE PERIOD FROM T PLUS 149.3  
SECONDS TO T PLUS 198.5 SECONDS WHEN THE RECORDS ARE  
NOISY APPARENTLY BECAUSE OF A GROUND STATION PROBLEM.

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THE VTS VERLORT PROVIDED SATISFACTORY ANALOG AND DIGITAL  
DATA RECORDS DURING THE ACTIVE TRACKING PERIOD. STATION  
COMMUNICATIONS DURING THIS OPERATION WERE ADEQUATE.

### 3. PRE-LAUNCH COUNTDOWN

TWO HOLDS WERE IMPOSED DURING THE COUNTDOWN. HOLD  
NO. 1 WAS CALLED AT T MINUS 60 TO PERMIT TIME FOR AN  
EVALUATION OF PAYLOAD DATA. DURATION OF THE HOLD WAS  
100 MINUTES. HOLD NO. 2 WAS CALLED AT T MINUS 5 MINUTES  
TO COMPLETE THE TOPPING OF THE THOR FUEL TANK. THIS  
SECOND HOLD LASTED APPROXIMATELY 1 MINUTE.

### 4. PAD DAMAGE

PAD DAMAGE WAS LIGHT AND NORMAL RECOVERY TIME IS  
EXPECTED.

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