

11/1

VIX 2

1101

CLASSIFICATION CHANGED TO  
TOP SECRET  
15 APR 1995

**OPERATIONAL DIRECTIVE**

4445 TEST TO VANDERBERG AFB CALIF

4445 TEST TO VANDERBERG AFB CALIF

4445 TEST TO DETROIT/MI SUNDYVALE CALIF

4445 TEST TO DETROIT/MI SUNDYVALE CALIF

4445 TEST TO DETROIT/MI SUNDYVALE CALIF (COURIER) REM

4445 TEST TO DETROIT/MI SUNDYVALE CALIF (COURIER) REM

4445 TEST TO DETROIT/MI SUNDYVALE CALIF (COURIER) REM

4445 TEST TO DETROIT/MI SUNDYVALE CALIF (COURIER) REM

4445 TEST TO VANDERBERG AFB CALIF (COURIER) REM

**SECRET FROM TTR-17-12C**

LOGA FOR WPT; 4445 TW FOR COL MOORE; LMBD/SUNDYVALE

FOR DEPT 41-44 (A. W. MARKS); LMBD/TAFK FOR DEPT 41-44

DAC FOR MR. WICKMAN; INFO; LMBD FOR COLDLAND POST,

DOWNLOADED AT 5-YEAR INTERVAL/  
DECLASSIFIED AFTER 12 YEARS  
900 EXECUTIVE SQ00.10

20  
DEC 1968

VWZ

OFFICE SYMBOL NO.	4445	NAME (SIGNATURE)	WALTER J. ...	DATE	
			WALTER J. ...		

AFBMD Form 11  
1 Nov 59

COORDINATION

Replaces AFBMD Form 11, 1 Jun 59

Out of 9 copies

RECOVERY OF COMPONENTS OF THE ROCKET...  
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RECOVERY OF COMPONENTS OF THE ROCKET...  
AND AREA 2 GENERAL ORDER NO. 1101 WAS LAUNCHED FROM  
SM-701, PAR 1, AT 11:40:00 PM ON 20 DECEMBER 1944. THE  
PRIMARY LAUNCH ELEMENT TO PLACE THE RECOVERY  
ELEMENTS WITH PAYLOAD INTO ORBIT WAS  
ACCOMPLISHED. GREAT ATTENTION WAS GIVEN TO THE  
BY ACCORDANCE WITH THE FIRST PASS BY THE RECOVERY VEHICLE  
AND RANDOM TRACKING STATION. DATA ACQUIRED ON THE  
FIRST PASS INDICATED THAT THE CONTROL GAS PRESSURE HAD  
BEEN DEPLETED AND THAT THE VEHICLE WAS EXPERIENCING  
APERTURE VARIATIONS. THE CAUSE OF THE CONTROL GAS  
DEPLETION NOTED ON THE FIRST PASS HAS NOT BEEN  
DETERMINED.

THE PRIMARY OBJECTIVES FOR DISCOVERY REE  
LAUNCH AND RECOVERY WERE AS FOLLOWS (REFERENCE  
DETAILED TEST OBJECTIVES, LMD 44404, SECTION 2.)

1. RECOVERY ROCKET

THE RECOVERY ROCKET PORTION THE RECOVERY

THE FOLLOWING REQUIREMENTS ARE CALLED

FOR THE AREA TO BE OPERATIONAL PRIOR TO A

POINT AT WHICH THE AREA MUST BE OPERATIONAL WITHIN

A SPECIFIED TIME PERIOD. THE AREA MUST BE OPERATIONAL WITHIN THE SPECIFIED

**B. AREA AVAILABILITY AND SUPPORT**

THE AREA AVAILABILITY AND SUPPORT MUST WITH-

STAND THE AREA AND FLIGHT ENVIRONMENT.

**C. AREA PERFORMANCE**

THE AREA MUST BE OPERATIONAL PRIOR TO THE

INITIAL POINT OF ORBITAL INSERTION. THE AREA

**D. AREA ELECTRICAL POWER SYSTEM**

THE AREA ELECTRICAL POWER SYSTEM MUST PROVIDE

**E. AREA GUIDANCE AND FLIGHT CONTROL SYSTEM**

THE AREA GUIDANCE AND FLIGHT CONTROL SYSTEM

**4.4. THE NO. 1 AND 2 AND 3 CASES**

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**F. SPACE COMMUNICATIONS SYSTEM**

**THE SPACE COMMUNICATIONS SYSTEM MUST PROVIDE  
A SUFFICIENT NUMBER OF CHANNELS FOR TRACKING  
AND CONTROL OF THE VEHICLE DURING ORBITAL  
OPERATIONS.**

**G. SUPPORT EQUIPMENT**

**THE SUPPORT EQUIPMENT MUST SATISFY  
REQUIREMENTS OF THE BOOSTER AND ORBITAL  
PHASE.**

**H. SUPPORT FACILITIES**

**THE SUPPORT FACILITIES MUST PROVIDE  
ADEQUATE DATA RECORDS, A SUFFICIENT NUMBER  
OF CHANNELS, AND SUFFICIENT STATION COMMUN-  
ICATIONS.**

**I. PRELIMINARY EVALUATION OF LAUNCH TEST OBJECTIVE  
ACHIEVEMENT FOLLOWING**

**A. BOOSTER, BOOSTER, ORBITAL ACHIEVEMENT**





... THE VEHICLE NUMBER, FLIGHT PATH  
 ... THE TRAJECTORY DURING THE  
 ... THE RANGE DATA MUST BE  
 ... THE LAYER OF

**F. AGMA AIRFRAME AND ADAPTER - OBJECTIVE**

... OF STRUCTURAL PROBLEMS IN THE  
 ... HAVE BEEN NOTED

**G. AGMA PROPULSION SYSTEM - OBJECTIVE ACHIEVED**

... THE AGMA PROPULSION SYSTEM OPERATED  
 ... FROM 1154.4 SEC TO 1141.4 SEC AND  
 ... PROVIDED A SENSIBLE VELOCITY GAIN OF 14,000 FT/SEC  
 ... AT THE JUNCTION

**H. AGMA ELECTRICAL POWER SYSTEM - OBJECTIVE**





THE TIME TO RECOVER FROM THE LOSS

OF COMMUNICATIONS WERE NOTED IN THE  
LOCAL TELETYPE OFFICE OFFICE.

2. AREA CONTROL AND TRAFFIC CONTROL SYSTEM

OPERATION

THE TIME TO RECOVER FROM THE LOSS AND THE  
TIME TO RECOVER FROM THE LOSS WERE  
NOTED FROM THE LOCAL TELETYPE OFFICE. THE  
DURATION OF COMMUNICATIONS WERE NOTED AND THE DURATION  
OF COMMUNICATIONS WERE NOTED.

THE VEHICLE POSITION WAS PROBABLY CHECKED  
DURING THE COAST PHASE AFTER SEPARATION AND DURING  
ORBITAL FLIGHT. THE TIME AND DURATION OF OPERATIONS  
WAS SATISFACTORILY CONTROLLED. THESE RESULTS  
WAS OBSERVED BY THE ACCELEROMETER INTEGRATOR.

COMMUNICATIONS WERE OBSERVED DURING ORBITAL FLIGHT  
AND THESE RESULTS WERE NOTED IN LOCAL TELETYPE  
OFFICE.

3. AREA CONTROL AND TRAFFIC CONTROL SYSTEM - OBSERVATION

THE ACCELEROMETER SIGNAL WAS TRACKED UNTIL 7:57  
SEC BY THE TAFE TRACKING STATION AND UNTIL 7:57 SEC  
BY THE FT MORGAN STATION. THE TRACKING WAS TRACKED

THE



FROM LEFT OFF TO 11:40 AM BY THE VEHICLE AND PT MICH  
VEHICLE ENGINE. ENGINE COMPLAINTS WERE PROPERLY  
REMOVED AND RESPONDED TO BY THE VEHICLE.

C. ENGINE SUPPORT EQUIPMENT - CRUISE CONTROL  
THE ENGINE AND CRUISE CONTROL WERE SATISFACTORILY  
OPERATED BY THE ENGINE SUPPORT EQUIPMENT.

D. ENGINE SUPPORT EQUIPMENT - CRUISE CONTROL  
EQUIPMENT

THE ENGINE TELETYPE SIGNAL WAS RECEIVED FROM  
LEFT OFF TO 11:40 AM BY THE VEHICLE AND PT MICH ENGINE  
EQUIPMENT AND THE ENGINE DATA RECORDS ARE IN GOOD  
CONDITION. A CRUISE CONTROL CHECKED FORWARD CAPABILITY  
AND REVERSE AND STATION COMMUNICATIONS WERE  
AHEAD OF 100 COMMERCIAL POWER VOLTAGE TO THE  
VEHICLE ENGINE PLANT. ENGINE PROBLEMS WERE  
REMOVED AND THE ENGINE WERE TERMINAL DOWNDOWN.  
ENGINE SUPPORT OPERATIONS AT THAT STATION WERE CONDUCTED  
ON REGULAR BASIS.

A. ENGINE SUPPORT EQUIPMENT

A. ENGINE SUPPORT EQUIPMENT TOTAL DURATION OF 10 MINUTE

WAS DURING WHICH THE ENGINE WERE

1944 TEST TO DETERMINE...

B. THE DEVIATION ANGLE WAS 15 DEGREES...  
THE DEVIATION VELOCITY WAS 14, 100 FT. THE DEVIATION  
FLIGHT FROM GUN TO TARGET AND THE DEVIATION  
ANGLE WAS 15 DEGREES AS DETERMINED FROM RADAR  
FLIGHT RECORDS.

3001 24 3

C. THE NUMBER OF DEVIATION TESTS CONDUCTED  
ON THE GUNNER ATTEMPT. THE FIRST ATTEMPT ON 13  
DECEMBER 1944 WAS ABORTED BECAUSE OF INSUFFICIENT TARGET  
ELEVATION.

D. ELECTRICAL CIRCUITS OF THE GUN OF THE GUNNER  
WAS EXTENSIVELY DAMAGED BY HEAT AND VIBRATION  
DURING TESTS. THE TIME REQUIRED  
FOR THE REPAIRS HAS NOT YET BEEN ESTABLISHED.

[Redacted signature and text]