FTV-1154 was launched at 16 hours 5½ min. 50 sec. EST on 9-29-62. The payload aboard was CM 13. Ascent [illegible] was nominal in all aspects. The following orbital parameters were achieved.

Table I

Orbital Parameters

	Nominal	Actual (Rev. 18)
Period (Min.)	90.16	90.28
Inclination (Deg.)	64.91	65.44
Eccentricity	.0116	0.0130
Perigee (N.M.)	113.4	110
Apogee (N.M.)	196.8	209

Vehicle Performance

The vehicle attitude control data indicated the vehicle was quite unstable throughout most of the flight. This coupled with the flight of Sigma 7 forced a decision of recovering on the 3rd day of the mission.

INSTRUMENT OPERATION

Panoramic Instruments. Both panoramic instruments operated throughout the flight. Both instruments cycled slower than the pre-flight nominal by 2 to 3%. Cycle period variation between instruments was 0.04% during the flight. I.M.C. match was good. The maximum error was 7 to 8%. on ascending passes and 3 to 4% on descending passes.

[redacted]

On the launch record the 1000 bit of the cycle counter on instrument no. 2 was indicating the zero count. The pre-launch value was step 2. By the acquisition on pass 9 this point was indicating the correct step and continued to step correctly for the remainder of the flight. There were no instrument dynamic problems apparent in the telemetry data.

Stellar Index. The Stellar Index operation appeared normal on the telemetry record for pass 9. The shutter fire pulse did not appear on the telemetry record for pass 41 indicating a failure in either the shutter mechanism or the monitoring circuitry. The film transport functions appeared normal on this pass. These were the only two passes acquired while the instruments were operating.

Clock Performance. The clock offset was essentially zero throughout the flight. The clock-system time correlations made are within the reading error of the data.

Temperature Environment. The in-flight instrument temperatures ranged from 59.3 to 90.2°F and 76.0 to 128°F on instruments 1 and 2 respectively. The stove pipe temperatures for instrument no. 1 ranged from 73.7 to 77.9°F and from 78.1 to 98.9°F on instrument no.2. The temp sensors installed on the lens housing for horizon cameras ranged from 59.3 to 66.5°F for instrument No. 1 and from 105 to 128°F for instrument No. 2. A tabulation of the temperature readings is included as enclosure I to this report.

Pirani Gage. A Pirani Gage was installed in the payload area to indicate the on-orbit pressure encountered within the system. Telemetry records indicate a failure in the system and no useable data was obtained.

Recovery System Performance. A successful air catch recovery was made on orbit 49. The secondary recovery system (Lifeboat) was utilized to initiate the recovery sequence to preclude an attempted recovery with an unstable vehicle. There was no telemetry coverage of the recovery sequence. The impact point was as follows:

Table II

Capsule Impact Point

	Predicted	Actual
Latitude	24° N	18° 7' N
Longitude	154° 56.46' W	152° 15' W

The LMSC film cutters/water seals were flown for the second time. The results achieved on this flight were not satisfactory in that the film for the main instruments was not cut clean nor was the water seal completely closed. Investigation into the failure is continuing.

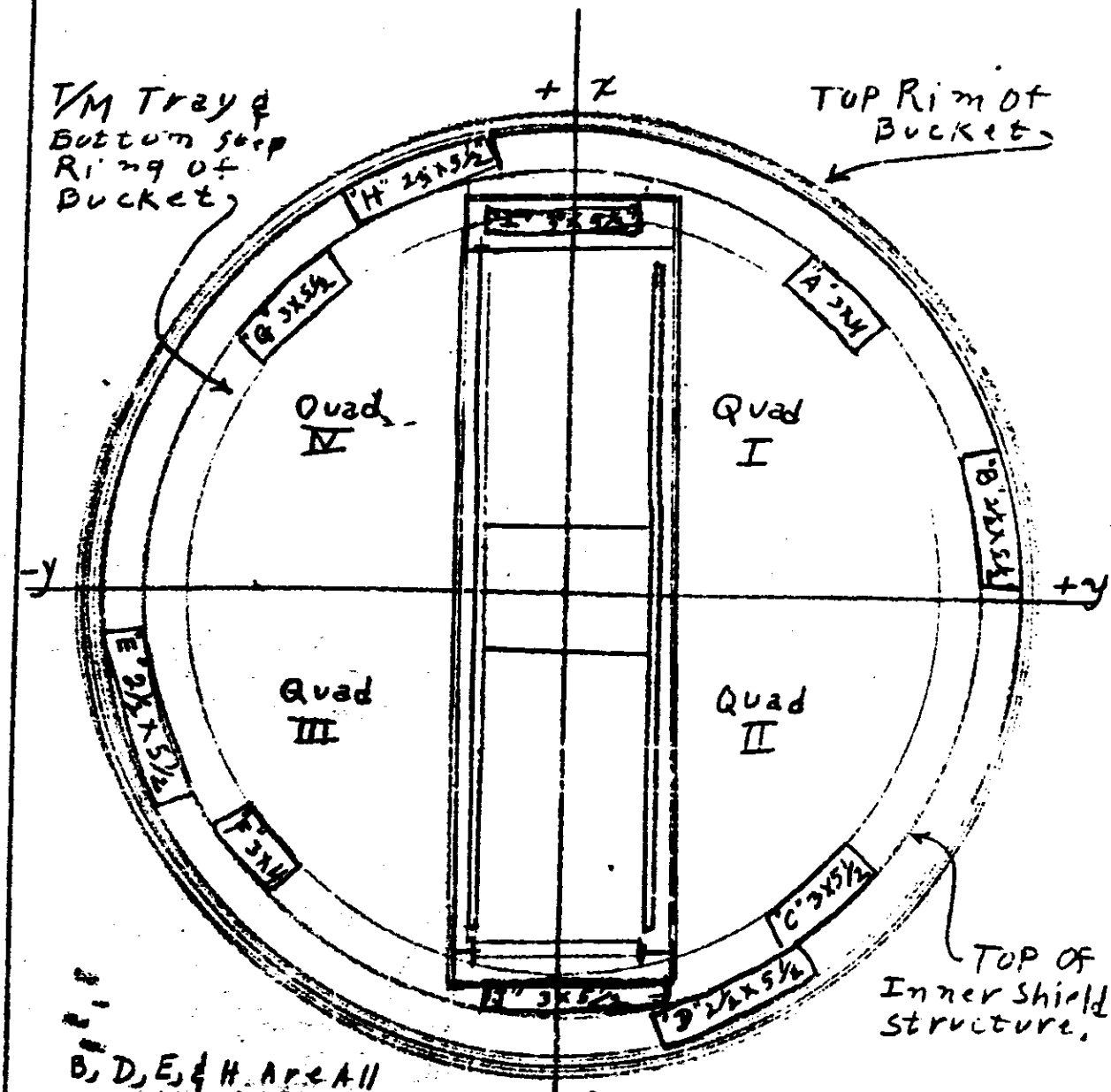
Enclosure II is a diagram of the location and temperature values recorded by the Temp-Plates installed on the recovery system.

SECRET [redacted]

SECRET

Prepared	[redacted]	DATE 10-8-62	LOCKHEED AIRCRAFT CORPORATION MISSILE SYSTEMS DIVISION	1 Page	TEMP / PERM
Checked	'FIGURE 1		TITLE Location of Radiation (Bucket) Patch Test Envelopes, A-9	A-9, 1134 Model	
Approved				Report No.	

View FWd, OR Looking Down Into Open Bucket On Ground.



B, D, E, & H Are All Above (Aft) of Inner Shield Plate.

A, C, F, G, I, & J are Inside (Fwd of) Inner shield Plate & Inner shield Structure.

NOTE:
10 Locations Are Arranged For Symmetry For Weight & Balance, As Near Specified Locations As Possible.

SECRET

TABLE I

IRRADIATION TEST DATA - FLIGHT "A" 1134

Max. Fog Density Vs Dose (3) (Roentgen) - - - - - 10/10/62

Film Sample Number	SO - FILM TYPE 102			130			206			132		
	Film Density Fog	Density Corr. to Inter. Proc.	Dose R	Film Density Fog	Density Corr. to Inter. Proc.	Dose R	Film Density Fog	Density Corr. to Inter. Proc.	Dose R	Film Density Fog	Density Corr. to Inter. Proc.	Dose R
(1) Process Control	0.08	0.08	0	0.07	0.07	0	0.07	0.07	0	0.06	0.06	0
Radiation Control	0.07	0.07	0	0.07	0.07	0	0.07	0.07	0	0.06	0.06	0
A	Data rejected* 0.28- -	0.33- - - - - -	-	0.07	0.07	-	0.08	0.08	-	0.06	0.06	-
B	0.28-0.9	0.44-1.4	32-25	Data rejected** 0.26- -	0.43- - - - -	-	0.14	0.14	-	0.10	0.10	-
C	0.12	0.20	-	0.08	0.08	-	0.09	0.09	-	0.07	0.07	-
D	0.85-0.23	1.25-0.38	3-23	Data rejected** 0.13- - -	0.10- - - - - -	-	0.14	0.14	-	0.10	0.10	-
E	0.27-1.02	0.44-1.62	3.5-28	0.40	0.40	20	0.20	0.20	-	0.11	0.11	-
(2) Proc. Control	0.08	0.08	0	0.08	0.08	0	0.08	0.08	0	0.07	0.07	0
F	0.12	0.21	1	0.08	0.08	-	0.08	0.08	-	0.07	0.07	-
G	0.11	0.16	-	0.07	0.07	-	0.08	0.08	-	0.06	0.06	-
H	Data rejected** 0.12- -	0.21- - - - -	-1- -	0.22	0.22	-	0.09	0.09	-	0.06	0.06	-
I	0.10	0.13	-	0.07	0.07	-	0.07	0.07	-	0.06	0.06	-
J	0.11	0.14	-	0.07	0.07	-	0.07	0.07	-	0.06	0.06	-

* Data rejected due to accidental exposure to white light during film pack disassembly.
** " " " " incorrect processing.

(1) Process control for samples A-E inclusive plus radiation control.
(2) Process control for samples F-J inclusive.
(3) Dose computed using Eastman Kodak Co. calibration data