

COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 157C

Launched: 0125 PDT, 25 September 1967 from SLC-5

Countdown History:

First Attempt: The countdown was initiated at 1942 PDT, 20 September 1967, and was cancelled prior to Task 4, Vehicle Erection, because of thunderstorms in the area.

Second Attempt: The countdown was initiated at 1934 PDT, 22 September 1967, and was cancelled during Task 1 because it was learned that several of the Wiggins fittings in the vehicle had a design defect.

Third Attempt: The countdown was initiated at 1925 PDT, 24 September 1967, and proceeded with no problems to lift-off.

Flight Performance:

1. Booster

<u>Events</u>	<u>Predicted</u>	<u>Actual</u>
Lift-off	0	0
2nd Stage Ignition	78.36	78.48
3rd Stage Ignition	122.23	122.32
Activate Coast Controls	162.13	162.23
4th Stage Ignition	726.86	727.22

2. Systems - Normal

3. Satellite

<u>Events</u>	<u>Predicted</u>	<u>Actual*</u>
Apogee	620.317 N. Mi.	602.5096 N. Mi.
Perigee	565.797 N. Mi.	562.1710 N. Mi.
Period	107.0842 Min.	106.90613 Min.
Inclination	90.00°	89.294°
Eccentricity	0.0067623	0.0048858

\* Based on information after approximately two days in orbit. Values are RMS Kempler orbital elements provided by the Naval Astronautics Group.

COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 158C

Launched: 1703 PST, 4 December 1967 from SLC-5

Countdown History: The countdown was initiated at 1025 PST, 4 December 1967 and proceeded to lift-off.

Flight Performance:

1. Booster

<u>Events</u>	<u>Predicted</u>	<u>Actual</u>
1st Stage Ignition	-.12	-.12
Lift-off	0	0
2nd Stage Ignition	79.78	79.90
3rd Stage Ignition	177.12	177.20
Activate Coast Controls	218.12	218.11
4th Stage Ignition	492.45	492.86

2. Systems - Normal

3. Satellite

<u>Events</u>	<u>Predicted</u>	<u>Actual *</u>
Apogee	237.611 N. Mi.	241.9 N. Mi.
Perigee	232.393 N. Mi.	226.3 N. Mi.
Inclination	89.9990°	90.6685°
Period	93.1501 Min.	93.05 Min.
Eccentricity	0.0007199	.0021213

\*Based on information received after 61 orbits from Space Defense Center.

COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 162C.

Launched: 1955 PST, 1 March 1968 from SLC-5

Countdown History:

The countdown was initiated at 1420 PST, 1 March 1968 and proceeded to liftoff with the following problems:

a. During Task 1, Step 16, "T/M Power" power supply voltage was fluctuating between 26 and 35 volts. The power supply "T/M Power" was turned off and removed. The "E T/M Power" power supply, not being used during this operation due to no vehicle E T/M package, provided a suitable substitute for the malfunctioning "T/M Power" power supply and was utilized during the remainder of the count.

b. Following removal of hydraulic pressure during the Base A run of Task 2, the vehicle Base A upper fin indicated 1.9° left. Prior to removal of hydraulic pressure, the upper fin read 0.3° right. Subsequent data obtained from Base A runs performed during Task 2 indicated that the upper fin drifted approximately 2° left whenever hydraulic pressure was removed. Based on the fact that the upper fin performed normally under the application of hydraulic pressure, the fin was accepted for flight.

Flight Performance:

1. Booster

<u>Events</u>	<u>Predicted</u>	<u>Actual</u>
1st Stage Ignition	-0.11	-0.11
Lift-off	0	0
2nd Stage Ignition Command	77.65	77.68
3rd Stage Ignition	120.69	120.65
Activate Coast Controls	161.59	161.57
4th Stage Ignition	733.89	735.10

2. Systems - Normal

3. Satellite: N-13 Classified Program

<u>Events</u>	<u>Predicted</u>	<u>Actual*</u>
Apogee	627.503 N. Mi.	614.3560 N. Mi.
Perigee	581.159 N. Mi.	558.3001 N. Mi.
Inclination	90.00°	89.993°
Period	107.503 Min	107.078 Min
Eccentricity	0.00573	0.00699

\* Based on information received after 13 orbits from Naval Astronautics Group, Point Mugu.

COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 161C

Launched: 1906 PDT, 16 May 1968 from SLC-5

Countdown History:

The countdown was initiated at 1301 PDT, 16 May 1968 and proceeded to liftoff with the following problems:

a. Prior to vehicle erection, there was an apparent malfunction of the "E" section telemetry  $\pm$  5g accelerometer. The accelerometer frequency was a lower band edge prior to switching to internal power, but following vehicle erection, the malfunction could not be duplicated and was therefore accepted for flight.

b. The first stage firing pulse monitor malfunctioned just prior to vehicle liftoff; therefore, the actual time that the first stage ignition command was sent was not recorded.

Flight Performance:

1. Booster

<u>EVENTS</u>	<u>PREDICTED</u>	<u>ACTUAL</u>
1st Stage Ignition	-0.11	-0.07
Liftoff	0.00	0.00
1st Stage Burnout	76.05	69.38
2nd Stage Ignition Command	77.84	77.81
2nd Stage Burnout	116.80	116.89
3rd Stage Ignition	176.80	175.76
3rd Stage Burnout	212.70	213.00
Activate Coast Controls	217.70	218.34
4th Stage Ignition	408.28	408.29
4th Stage Burnout	441.60	442.69

2. Systems - Normal

3. Satellite - European Space Research Organization (ESRO) IIB Spacecraft containing seven experiments to measure solar and cosmic radiation; x-rays, trapped radiation; solar and Van Allen Belt protons; alpha particles, and high energy protons.

<u>EVENTS</u>	<u>PREDICTED *</u>	<u>ACTUAL **</u>
Apogee	593.850 N. Mi.	586.134 N. Mi.
Perigee	190.448 N. Mi.	181.230 N. Mi.
Inclination	98.202°	97.162°
Period	99.154 Min.	98.90 Min.
Eccentricity	0.05264	0.05310

\* Based on earth mean radius of 3439.566 N. Mi.

\*\* Based on 25th orbit data provided by Space Defense Center Data using 3443.9 N. Mi. as earth mean radius.

## COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 165C.

Launched: 1312 PDT, 8 August 1968 from SLC-5.

### Countdown History:

The countdown was initiated at 0644 PDT, 8 August 1968 and proceeded to lift-off with the following problems:

a. Following Task 4 of the countdown (Vehicle Erection), the vehicle was returned to the horizontal position. Modification was accomplished on payload door strut which had slipped out of position. The vehicle was returned to the vertical position and the count proceeded normally.

b. Command Destruct Transmitter (CDT) support for the entire launch operation was provided by the Vandenberg CDT. San Nicholas Island's CDT was not operational prior to vehicle lift-off and could not provide the required CDT transmitter support.

### Flight Performance:

#### 1. Booster

<u>Events</u>	<u>Predicted</u>	<u>Actual</u>
1st Stage Ignition	-0.11	-0.10
Lift-off	0	0
2nd Stage Ignition Command	78.62	78.59
3rd Stage Ignition	121.28	121.26
Activate Coast Controls (Coast Gain)	162.18	162.02
4th Stage Ignition	608.96	*

#### 2. Systems - Normal.

3. Satellite: The Air Density/Injun Explorer (AD/I-C) spacecraft is an interdisciplinary project in the areas of aeronomy, energetics of particles and fields, and radio and ionospheric physics. After attaining orbit, this spacecraft separated into its Air Density Explorer and Injun Explorer segments. Results are:

<u>Events</u>	<u>Predicted**</u>	<u>Injun Explorer S/C Actual***</u>	<u>Air Density S/C Actual***</u>
Apogee	1318.157 N. Mi.	1364.48 N. Mi.	1357.41 N. Mi.
Perigee	376.807 N. Mi.	369.80 N. Mi.	375.76 N. Mi.
Inclination	81.988°	80.695°	80.6766°
Period	117.343 Min.	118.342 Min.	118.32 Min.
Eccentricity	0.10979	0.11543	0.113798

\* Values not available due to lack of vehicle E section T/M and Doppler support.

\*\* Based on a mean earth radius of 3439.566 N. Mi.

\*\*\* Based on data provided by the Space Defense Center after four passes using 3443.9 N. Mi. as a mean earth radius.

## COMMANDER'S LAUNCH SUMMARY

Missile: NASA/DOD Scout Vehicle 167C

Launched: 1349 PDT, 3 October 1968 from SLC-5

### Countdown History:

The countdown was initiated at 0743 PDT, 3 October 1968 and proceeded to liftoff with only one problem:

a. During terminal countdown, dropout of Command Destruct Monitor Channel #4 was observed at the SLV-1 Telemetry Van, Range Telemetry Control and the NASA Telemetry Station. This condition disappeared prior to vehicle liftoff and did not reappear during flight. Carrier Signal Strength on both Command Destruct receivers was excellent when this anomaly was present. The investigation of this condition is continuing.

### Flight Performance:

#### 1. Booster

<u>EVENTS</u>	<u>PREDICTED</u>	<u>ACTUAL</u>
1st Stage Ignition	-0.03	-0.03
Liftoff	0.00	0.00
1st Stage Burnout	75.39	68.47
2nd Stage Ignition Command	79.29	79.15
2nd Stage Burnout	116.95	117.04
3rd Stage Ignition	176.95	176.83
3rd Stage Burnout	212.85	210.88
Activate Coast Controls	217.85	217.85
4th Stage Ignition	354.62	354.56
4th Stage Burnout	394.12	393.62

#### 2. Systems - Normal

3. Satellite - This satellite, known as the Polar Ionosphere Satellite ESRO I, will measure the energies and distributions of the particles at high latitudes and the effects of the particles as manifested by auroral events and the composition of the ionosphere.

<u>EVENTS</u>	<u>PREDICTED*</u>	<u>ACTUAL**</u>
Apogee	807.129	829.36
Perigee	144.452	141.02
Inclination	93.999°	93.765°
Period	102.523	102.917
Eccentricity	0.08456	0.0875978

\* Based on a mean earth radius of 3439.566 N. Mi.

\*\* Based on data obtained by Space Defense Center during the ninth payload orbit. A mean earth radius of 3443.9 N. Mi. was used.

COMMANDER'S LAUNCH SUMMARY  
PROGRAM ESRO IB

Missile: NASA/DOD Scout Vehicle 172C.

Launched: 1529 PDT, 1 October 1969 from SLC-5.

Countdown History:

The countdown was initiated at 0924 PDT, 1 October 1969, and progressed to lift off with no vehicle nor range holds.

Flight Performance:

1. Booster

<u>EVENTS</u>	<u>PREDICTED TIME</u>	<u>ACTUAL TIME</u>
1st Stage Ignition	T-0.11 sec.	T-0.10 sec.
Liftoff	0	0
1st Stage Burnout	+76.54	+73.07
2nd Stage Ignition	77.61	77.67
2nd Stage Burnout	117.08	117.47
3rd Stage Ignition	177.08	176.92
3rd Stage Burnout	212.98	213.68
Coast Phase	217.98	217.97
4th Stage Ignition	440.08	440.50
4th Stage Burnout	474.32	475.50

2. Systems - A pitch down thrust misalignment during third-stage operation and a low performing fourth-stage motor caused both low injection altitude and velocity conditions during flight.

3. Satellite - The Polar Ionosphere Satellite (ESRO-IB) will investigate the fine structure of aurorae borealis -- particularly over the northern polar regions during the darkness of winter. Correlated studies will be made on auroral particles, auroral luminosity, ionospheric composition, and heating effects.

<u>EVENTS</u>	<u>PREDICTED*</u>	<u>ACTUAL** *</u>
Injection velocity fps	25212	25115
Injection altitude, n.mi.	216.03	210.78
Apogee, n.mi.	237.85	212.21
Perigee, n.mi.	216.03	164.68
Inclination Angle, deg.	86.00	85.13
Period, min.	92.75	91.34
Eccentricity	0.0025	0.0080

\* Based on a mean earth radius of 3439.57 n. mi.

\*\* Based on data obtained from Space Defense Center and Goddard Space Trajectory Bulletin.

COMMANDER'S LAUNCH SUMMARY  
PROGRAM GRS-A.

Missile: NASA/DOD Scout Vehicle 169C.

Launched: 1752 PST, 7 November 1969 from SLC-5.

Countdown History:

The initial countdown began at 1217 PST, 6 October 1969; the launch was terminated 3 hours into the countdown when a H2O2 leak developed in the launcher fueling system. The resulting fire, which was confined to the umbilical tube, was quickly extinguished. Damage assessment and repairs were made before the final countdown was initiated at 1217 PST, 7 October 1969.

Flight Performance:

1. Booster

<u>EVENTS</u>	<u>PREDICTED TIME</u>	<u>ACTUAL TIME</u>
1st Stage Ignition	T-0.11 sec.	T-0.12 sec.
Liftoff	0	0
1st Stage Burnout	+76.54	+74.48
2nd Stage Ignition	83.60	83.63
2nd Stage Burnout	121.63	121.96
3rd Stage Ignition	148.67	148.58
3rd Stage Burnout	184.57	183.13
Coast Phase	189.57	189.55
4th Stage Ignition	478.93	478.08
4th Stage Burnout	514.12	511.18

2. Systems - Normal.

3. Satellite - The German AZUR Project (GRS-A) Satellite will investigate the relationships between solar activity, particle radiation in the Van Allen Belts, auroral phenomena, and the terrestrial magnetic field.

<u>EVENTS</u>	<u>PREDICTED*</u>	<u>ACTUAL** *</u>
Injection velocity, fps	27270	27234
Injection altitude, n.mi.	214.82	213.36
Apogee, n.mi.	1744.45	1704.28
Perigee, n.mi.	214.75	213.36
Inclination Angle, deg.	102.67	102.96
Period, min.	122.78	121.90
Eccentricity	0.1730	0.1692

\* Based on a mean earth radius of 3439.57 n.mi.

\*\* Based on data obtained from Space Defense Center and Goddard Space Track Bulletin.



COMMANDER'S LAUNCH SUMMARY  
PROGRAM NNSS

Missile: NASA/DOD Scout Vehicle 176C.

Launched: 0623 PDT, 27 August 1970. *Op# 1033*

Countdown History:

The countdown was initiated at 0010 PDT, 27 August 1970 and proceeded to liftoff with no major problems.

Flight Performance:

1. Booster

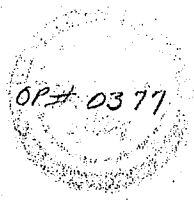
<u>EVENTS</u>	<u>PREDICTED TIME</u>	<u>ACTUAL TIME</u>
1st Stage Ignition	-0.11 sec	-0.11 sec
Liftoff	0	0
1st Stage Burnout	73.82	unknown
2nd Stage Ignition	73.84	73.84
2nd Stage Burnout	114.14	112.09
3rd Stage Ignition	117.44	117.45
3rd Stage Burnout	154.95	153.53
4th Stage Ignition	731.78	731.73
4th Stage Burnout	760.33	761.57

2. Systems - Normal.

3. Satellite - The N-14 satellite was successfully added to the constellation of the Navy Navigation Satellite System. Orbital parameters are listed below:

	<u>PLANNED</u>	<u>ACTUAL</u>
Apogee, nm	635	653
Perigee, nm	588	520
Inclination, deg	90.00	90.02
Period, Min.	107.8	107.0
Eccentricity	0.0058	0.0169

DEPARTMENT OF THE AIR FORCE  
6595TH SPACE TEST GROUP (VOSS)(AFSC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437



PROGRAM UK-4  
FLIGHT VEHICLE NO. S-183C  
WTR OP. NO. 0377

31 January 1972

SUBJECT: Commander's Summary Report for Vehicle S-183C

Missile: NASA/DOD Scout Vehicle S-183C

Launched: 1247 PST, 11 December 1971 from SLC-5, Vandenberg AFB, California

Countdown History: The countdown was initiated at 0545PST, 11 December 1971. The countdown proceeded to T-8 minutes at which point a low pressure reading of 435psi (4psi below minimum) on the 3rd stage H<sub>2</sub>O<sub>2</sub> system was noted. The decision was made to continue the countdown and H<sub>2</sub>O<sub>2</sub> pressure indicated 440psi just prior to sequencer start. Simultaneously with sequencer start at T-2, a liftoff indication was transmitted to the range. Clearance to launch was withheld momentarily by the RCO until it was determined that the liftoff indication was erroneous and all other systems were ready for launch. The sequencer and range countdown clocks were reset and the countdown continued to T-0 at 1247PST.

Flight Performance:

1. Booster

EVENTS

	<u>PREDICTED TIME (sec)</u>	<u>ACTUAL TIME (sec)</u>
1st Stage Ignition	-0.08	-0.08
Liftoff	0	0
1st Stage Burnout	+80.09	no data
2nd Stage Ignition	81.91	81.86
2nd Stage Burnout	120.91	121.46
3rd Stage Ignition	143.42	143.46
3rd Stage Burnout	180.11	178.46
Coast Phase	185.11	184.41
4th Stage Ignition	549.59	549.21
4th Stage Burnout	584.75	LOS

2. Systems - S-183C is the first Scout launched from Vandenberg AFB with "S" Band T/M. Signal dropouts occurred for 10 seconds during 1st stage burn, at 3rd stage ignition for 31 seconds, and during 3rd stage coast for 17 seconds and 3 seconds.

3. Satellite - The primary objective of the UK-4 Program is to explore the interactions between the plasma, electromagnetic waves and charged streams in and above the topside ionosphere.

EVENTS

	<u>PREDICTED*</u>	<u>ACTUAL</u>
Apogee, Km	549.97	576.48
Perigee, Km	549.84	493.0
Inclination Angle, deg.	83.0	82.9923
Period, min	95.481	95.30
Eccentricity	0.00001	0.008419
Spacecraft Weight, lbs	225.45	226.38

\*Based on a mean earth radius of 6378.145Km.

*Alvin L. Reeser*  
ALVIN L. REESER, Colonel, USAF  
Commander

DEPARTMENT OF THE AIR FORCE  
6595th SPACE TEST GROUP (AFSC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437



PROGRAM: Navy Navigation Satellite System  
FLIGHT VEHICLE NO: Scout 182-C  
SAMTEC OP. NO.: 0349

SUBJECT: Commander's Summary Report for Vehicle 182-C  
MISSILE: NASA/DOD Scout Vehicle 182-C  
LAUNCHED: 1050:29.507 PDT, 2 Sep 1972 from SLC-5, Vandenberg AFB, CA

COUNTDOWN HISTORY: Vehicle Countdown was initiated at 0320 PDT on 2 Sep 1972. The only problem encountered was an out-of-tolerance reading for the second stage H<sub>2</sub>O<sub>2</sub> pressure. This condition was accepted and was attributed to a ground instrumentation problem.

FLIGHT PERFORMANCE:

1. Booster

EVENTS	PREDICTED TIME (sec)	ACTUAL TIME (sec)
1st Stage Ignition	T-00.08	T-00.068
Liftoff	00.00	00.00
1st Stage Burnout	74.81	74.92
2nd Stage Ignition	74.81	74.92
2nd Stage Burnout	113.76	114.52
Heatshield Ejection	116.64	116.72
3rd Stage Ignition	118.76	118.12
3rd Stage Burnout	155.45	153.70
Coast Phase	160.45	160.82
4th Stage Ignition	642.19	not available
4th Stage Burnout	677.99	not available

2. Vehicle Systems: All systems performed normally during flight.

3. Satellite Systems: All TRIAD OI-1X systems are functioning normally. The TRIAD OI-1X satellite is powered by a radioisotope thermoelectric generator and has several experiments on-board in addition to its normal function as a navigation satellite. The experiments include a Disturbance Compensation Systems to compensate for aerodynamic drag; newly developed solar cells; and developmental types of thermo coatings.

PARAMETERS	PREDICTED	ACTUAL*
Apogee, n mi	494.10	463
Perigee, n mi	449.59	412
Inclination Angle, deg	90.00	90.127
Period, min	102.26	100.64
Eccentricity	0.00569	0.00655

\*Based upon a mean earth radius of 3447.6 n mi.

*William C. Chambers*  
WILLIAM C. CHAMBERS, Colonel, USAF  
Commander

PROGRAM: ESRO IV  
FLIGHT VEHICLE NO: Scout 185-C  
SAMTEC OP. NO.: 3657

SUBJECT: Commander's Summary Report for Vehicle 185-C  
MISSILE: NASA/DOD Scout 185-C  
LAUNCHED: 1617:01.04 PST, 21 Nov 1972 from SLC-5, Vandenberg AFB, CA.

COUNTDOWN HISTORY: Vehicle countdown was initiated at 0915 PST on 20 Nov 1972. The countdown proceeded normally until 2 minutes prior to the opening window. During the final automatic sequence, the 4th stage T/M internal verification was not received due to a AGE circuit design problem. The countdown was aborted and rescheduled for 21 Nov 1972. Vehicle countdown was re-initiated at 0917 PST on 21 Nov 1972 and proceeded normally to lift-off.

FLIGHT PERFORMANCE:

1. Booster

<u>EVENTS</u>	<u>PREDICTED TIME (sec)</u>	<u>ACTUAL TIME (sec)</u>
1st Stage Ignition		
Liftoff	00.00	00.00
1st Stage Burnout	80.57	80.51
2nd Stage Ignition	83.79	83.51
2nd Stage Burnout	123.82	123.56
Heatshield Ejection	181.12	182.26
3rd Stage Ignition	183.82	183.46
3rd Stage Burnout	220.11	217.81
Coast Gain	225.11	225.16
4th Stage Ignition	361.93	361.24
4th Stage Burnout	396.29	395.36

2. Vehicle Systems: All systems performed normally during flight.

3. Satellite Systems: All satellite systems are functioning normally. The ESRO IV satellite is designed to study ion distribution, density of neutral gas in the thermosphere; and low and high energy particles in the auroral zones.

<u>PARAMETERS</u>	<u>PREDICTED</u>	<u>ACTUAL*</u>
Apogee, n mi.	593.8	640.6
Perigee, n mi.	151.2	137.0
Inclination Angle, deg	90.9	91.124
Period, min	98.4	99.024
Eccentricity	0.05805	0.066816

\*Based upon a mean earth radius of 3447.6 n mi.

  
WILLIAM C. CHAMBERS, Colonel, USAF  
Commander

PROGRAM: AEROS  
FLIGHT VEHICLE NO: Scout 181-C  
SAMTEC OP. NO.: 8347

SUBJECT: Commander's Summary Report for Vehicle 181-C  
MISSILE: NASA/DOD Scout 181-C  
LAUNCHED: 0324:56.504 PST, 16 Dec 1972 from SLC-5, Vandenberg AFB, CA.

COUNTDOWN HISTORY: Vehicle countdown was initiated at 2025 PST on 15 Dec 1972. The countdown proceeded normally to lift-off.

FLIGHT PERFORMANCE:

1. Booster

EVENTS

1st Stage Ignition

Liftoff

1st Stage Burnout

2nd Stage Ignition

2nd Stage Burnout

Heatshield Ejection

3rd Stage Ignition

3rd Stage Burnout

Coast Gain

4th Stage Ignition

PREDICTED TIME (sec)

ACTUAL TIME (sec)

-0.13

-0.13

0.00

0.00

80.57

81.37

87.03

86.87

126.02

126.57

184.32

184.37

186.02

185.97

222.31

221.17

227.31

226.92

397.63

397.27

2. Vehicle Systems: All systems performed normally during flight.

3. Satellite Systems: All satellite systems are functioning normally.

The AEROS satellite is designed to measure the temperature, density and composition of neutral and charged particles in the earth's upper atmosphere and ionospheric F-region.

PARAMETER

PREDICTED\*

ACTUAL\*

Apogee, n. mi.

430.8

464.4

Perigee, n. mi.

129.5

134.5

Inclination angle, deg.

97.2

96.945

Period, min.

94.8

95.4714

Eccentricity

0.04050

0.046732

\*Based upon a mean earth radius of 3439.6 n. mi.

*William C. Chambers*

WILLIAM C. CHAMBERS, Colonel, USAF

Commander

DEPARTMENT OF THE AIR FORCE  
6595 SPACE TEST GROUP (SJ) (AFSC)  
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

PROGRAM 6500  
FLIGHT VEHICLE NO. S-188C  
SAMTEC OPERATION NO. 8557

25 APR 1974

SUBJECT: Commander's Summary Report for Vehicle S-188C

MISSILE: NASA/DOD Scout Vehicle S-188C

LAUNCHED: 1922:11.417 Hours, PDT, 8 March 1974 from SLC-5, Vandenberg AFB, California.

COUNTDOWN HISTORY: Countdown was initiated at 1209 hours, PDT, 27 February 1974. Countdown was terminated when the pitch rate gyro malfunctioned during checkout. The pitch rate gyro was removed and replaced, and bench testing was reperformed on the guidance package. Countdown was re-initiated at 1209 hours, PDT, 8 March 1974. Countdown proceeded normally to lift-off.

FLIGHT PERFORMANCE:

<u>EVENTS</u>	<u>PREDICTED TIME (sec)</u>	<u>ACTUAL TIME (sec)</u>
1st Stage Squib Ignition	T-00:13	T-00:17
Lift-off (First Motion)	00.00	00:00
1st Stage Burnout	81.01	79.77
2nd Stage Ignition	82.16	82.17
2nd Stage Burnout	120.68	120.37
Heatshield Ejection	178.98	178.97
3rd Stage Ignition	180.68	180.77
3rd Stage Burnout	217.33	215.37
Coast Phase	222.33	222.37
4th Stage Ignition	637.30	636.87
4th Stage Burnout	667.98	668.57

*William C. Chambers*  
WILLIAM C. CHAMBERS, Colonel, USAF  
Commander, 6595 STG

c. The fifth stage of DEPARTMENT OF THE AIR FORCE was cancelled. The burn-out velocity 6595 SPACE TEST GROUP (SJ) (AFSC) above nominal and caused VANDENBERG AIR FORCE BASE, CALIFORNIA 93437

3. Satellite - The objective of the Neutral Point Explorer Satellite was to investigate the PROGRAM 6500 solar wind with the earth's magnetic field. FLIGHT VEHICLE NO. S-191C  
SAMTEC OPERATION NO. 4790

EVENTS	PREDICTED*	ACTUAL
Altitude, Earth Radii	15.993	15.897
<b>SUBJECT:</b> Commander's Summary Report for Vehicle S-191C		
Inclination Angle, deg.	90.0	89.788
<b>MISSILE:</b> NASA/DOD Scout Vehicle S-191C		
Altitude	0.0000	0.001321
<b>LAUNCHED:</b> 1609:11:560, PDT, 3 June 1974 from SLC-5, Vandenberg AFB, California.		

**COUNTDOWN HISTORY:** Countdown was initiated at 0732 hours, PDT, on 3 June 1974. At approximately T-300 minutes the countdown went into a hold status in order to replace a leaking nitrogen quick disconnect fitting on the vehicle. The countdown was resumed at approximately T-222 minutes and proceeded normally to lift-off.

**FLIGHT PERFORMANCE:**

1. Booster

EVENTS	PREDICTED TIME (sec)	ACTUAL TIME (sec)
1st Stage Ignition	T-00.13	T-00.176
Lift-off (First Motion)	00.00	00.000
1st Stage Burnout	80.21	80.218
2nd Stage Ignition	83.29	83.118
2nd Stage Burnout	121.67	121.718
3rd Stage Ignition	146.39	146.218
3rd Stage Burnout	175.29	173.818
Coast Phase	180.29	180.118
4th Stage Ignition	515.29	514.818
4th Stage Burnout	546.14	545.918
5th Stage Ignition	2276.29	2276 (EST)
5th Stage Burnout	2285.79	2285 (EST)

2. Systems - Three vehicle anomalies were noted during flight.

a. After first stage burnout and prior to second stage ignition, one of the first stage aerodynamic fins failed to respond to guidance signals. This had no measurable effect on the flight accuracy.

b. The 4th stage spin rate monitor failed to function. Proper spin-up was confirmed by satellite sensors and vehicle accelerometers.

EVENTS DEPARTMENT OF THE AIR FORCE  
Injection V. No. 6595 SPACE TEST GROUP (SJ) (AFSC)  
Injection VANDENBERG AIR FORCE BASE, CALIFORNIA 93437  
Apogee, n. mi. 395.02  
Perigee, n. mi. 127.12  
Inclination PROGRAM 6500  
FLIGHT VEHICLE NO. S-186C  
SAMTEC OPERATION NO. 2741  
Spacecraft Weight, lbs 281.01

SUBJECT: Commander's Summary Report for Vehicle S-186C

MISSILE: NASA/DOD Scout Vehicle S-186C

LAUNCHED: 0451:01.130, PDT, 16 July 1974 from SLC-5, Vandenberg AFB, California.

COUNTDOWN HISTORY: Countdown was initiated at 2147 hours, PDT, on 15 July 1974. At T-3 minutes the countdown went into a hold status in order for a train to vacate the hazard corridor. The countdown was resumed 4 minutes later and proceeded normally to lift-off.

FLIGHT PERFORMANCE:

1. Booster

EVENTS	PREDICTED TIME (sec)	ACTUAL TIME (sec)
1st Stage Ignition	T-00.13	T-00.16
Liftoff (First Motion)	00.00	00.00
1st Stage Burnout	82.02	82.62
2nd Stage Ignition	88.86	88.67
2nd Stage Burnout	127.19	126.77
3rd Stage Ignition	187.19	187.07
3rd Stage Burnout	223.84	221.27
Coast Phase	228.84	228.67
4th Stage Ignition	369.15	368.67
4th Stage Burnout	400.91	401.07

2. Systems - No inflight anomalies occurred.

3. Satellite - The primary objective of the German Aeronomy Satellite AEROS-B was to acquire further knowledge of the physical state and behavior of the earth's upper atmosphere and ionospheric F-region by measurement of the main aeronomic parameters.



DEPARTMENT OF THE AIR FORCE  
 6595 SPACE TEST GROUP (SJ) (AFSC)  
 VANDENBERG AIR FORCE BASE, CALIFORNIA 93437  
 The primary purpose of this report is to provide information regarding the flight performance of the vehicle and the status of the satellite in flight. The data presented herein was obtained from the ground stations and the satellite itself. The data was analyzed and the results are presented in this report. The data was analyzed and the results are presented in this report. The data was analyzed and the results are presented in this report.

FLIGHT VEHICLE NO. S-189C  
 SAMTEC OPERATION NO. 4930

	PREDICTED	ACTUAL
SUBJECT: Commander's Summary Report for Vehicle S-189C		
Altitude, km	509.70	509.70
MISSILE: NASA/DOD Scout Vehicle S-189C		
Altitude, km	509.70	509.70
LAUNCHED: 0707:39.704, PDT, 30 August 1974 from SLC-5, Vandenberg AFB, California.		
Altitude, km	509.70	509.70

COUNTDOWN HISTORY: Countdown number 1 was initiated at 0005 hours PDT on 27 August 1974. Due to sequencer abort at T-2 seconds the launch was postponed. The abort was induced by a fin null that was out of tolerance. The fin was adjusted and at 0005 hours PDT on 30 August 1974, countdown number 2 was initiated. Countdown number 2 proceeded normally until lift-off.

FLIGHT PERFORMANCE:

1. Booster

EVENTS	PREDICTED TIME (sec)	ACTUAL TIME (sec)
1st Stage Ignition	T-00.13	T-00.19
Liftoff (First Motion)	00.00	00.00
1st Stage Burnout	82.23	81.47
2nd Stage Ignition	82.23	82.31
2nd Stage Burnout	120.60	120.60
3rd Stage Ignition	140.64	140.83
3rd Stage Burnout	177.29	174.87
Coast Phase	182.29	182.26
4th Stage Ignition	547.60	546.78
4th Stage Burnout	580.90	581.00 (Approximate)

2. Systems - The third step in the timer program failed to occur causing the vehicle to pitch down more than predicted. Retro occurred approximately 7.5 seconds after programmed time. The late retro had no appreciable effect on the flight. At this time a review board is studying these problems and will recommend solutions.