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A T L A S (TALL FELLOW)

MISSILE: Atlas # 12 D

LAUNCHED: 1050.42 PDT, 9 September 1959, 576A, Pad #2

COUNTDOWN HISTORY:

1. First Attempt: Launched at 1050.42 PDT, 9 September 1959. Hold time of 25 minutes at T-90 seconds due to an indicated intermittant failure of the digital voltmeter for roll voltage on the LCO console. Actual voltage was measured and found to be satisfactory before continuing countdown.

FLIGHT PERFORMANCE:

	Event/Time	Difference
1. BECO	137.5	-3.0
SECO	263.0	-2.5
VECO	275.1	-9.3
Pre-Arm	291.7	+6.7
Separation	300.0	-2.5

2. All airborne systems operated satisfactorily.

3. Impact Time 1817:20 ZEBRA

4. Target Impact - Splash net (accuracy ±1NM) - 1 NM Left, 1.8 NM Short
Computer 0 NM Right/left, 1 NM Long

GROUND SUPPORT EQUIPMENT PERFORMANCE:

All GSE systems operated satisfactorily.

REMARKS:

1. All test objectives were met.
2. All subsystems operated satisfactorily.

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Declassified: 2/29/72 MC

Sep 59 12 71

2 TALL FELLOW 1015

Downgraded at three year intervals IAW DOD DIR 5200.10 LPG 28-SEP 64

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6595-63-0645

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A T L A S - "DUAL EXHAUST"

MISSILE: ATLAS 6 D

LAUNCHED: 1543:05.78 PST, 26 Jan 60, 576A, Pad #3

COUNTDOWN HISTORY:

First Attempt 22 January 1960 Countdown lasted 65 minutes, stopped at T-10 seconds because of "Coolants Red" condition. Cause was determined to be faulty micro switch.

Second Attempt 25 January 1960 Countdown lasted 53 minutes, stopped because failure of "ignitors arm" circuit during final commit sequence. Cause was found to be improper engagement of electrical connector.

Third Attempt 26 January 1960 Countdown lasted 38 minutes, stopped because of LOX over-tanking condition. Cause was found to be a burned out fuze in PLCU.

Fourth Attempt Launched at 1543:05.78 PST, 26 January 1960. A hold of 14 minutes was required because of "No Go Loop Test". Cause was "Track Radar" locked on to wrong target. "Loop Test" rerun good.

FLIGHT PERFORMANCE:

		Event/Time	Difference:
1.	BECO	139.4	-0.7
	SECO	270.9	+5.7
	VECO	294.4	+12.1
	PRE-ARM	301.0	--
	SEPARATION	307.4	--

2. At 175 seconds erratic yaw commands were first sent. At 195 seconds the guidance station lost the range rate flag. The flag was regained at about 312 seconds. Pitch and yaw continued to be erratic until about 14 seconds of vernier stage.

3. The vernier cut-off was sent by the guidance station at 278.5 seconds for 0.5 second. Vernier cut-off did not occur until initiated by the autopilot programmer at 294.4 seconds.

4. The propulsion, IFSS, pneumatics and hydraulic systems operated satisfactorily.

5. Target impact splash net (accuracy ± INM) 1.7NM left 9.5 NM Long

GROUND SUPPORT EQUIPMENT PERFORMANCE:

All GSE systems operated satisfactorily except as noted above.

REMARKS:

Continued research being conducted on above noted problems.

Downgraded at 3 YR. intervals IAW DOD DIR 5200.10 HLH 28-SEP 64

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6595-63-0646

Declassified: 3 Feb 70 MC

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ATLAS - "QUICK START"

UNCLASSIFIED

MISSILE: Atlas 25D

LAUNCHED: 1139:01 PST, 22 April 1960, 576B, Pad 2

COUNTDOWN HISTORY:

1. First Attempt — 6 April 1960 Countdown through Commit was aborted after RV battery failed to activate during two successive Commit attempts. Cause was not determined exactly since it could not be duplicated. However, a new RV and battery was installed and successfully checked out.

2. Second Attempt — 7 April 1960 Countdown was aborted after 45 minutes due to malfunction of LO_2 Loading System. Cause was determined to be contamination of Propellant Utilization manometers (EDO out of tolerance) which gave a "false" full load of LO_2.

3. Third Attempt — 22 April 1960 Launched at 1139:01 PST following a 23 1/2 minute countdown, which included a 11 minute hold to re-run the loop test. During both loop tests a Booster #2 Roll "Fault" Indication was displayed at the Launch Analyst's Panel. However, telemetered data indicated proper B2 engine roll movement during both loop tests.

FLIGHT PERFORMANCE:

1.

Event:	Time:	Difference:
BECO	132.	-3.2
SECO	274.	+8.9
VECO	289.	+6.1
Pre-Arm	304.	+9
Separation	309.	+7

2. Performance of guidance system was normal and satisfactory.

3. The Propulsion, IFSS, Pneumatics and Hydraulics Systems operated satisfactorily.

4. Target impact splash net (accuracy ± 1 NM) within 0.15 mile of target. The computer impact prediction was 0.6 mile long and 0.1 mile left.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

1. All GSE systems operated satisfactorily except as noted above.

2. Damage to LSB was minimal.

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REMARKS:

Long delay after second launch attempt was due to AFBMD/STL directed modifications and inspections of 25D prior to launch. These were generated by two 65D disasters at Cape Canaveral, 48D and 51D.

Downgraded at 3YR intervals IAW DOD DIR 5200.10 29 SEP 64

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Declassified 6/9/72 mc

6595-63-0647

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ATLAS - "LUCKY DRAGON"

MISSILE: Atlas 23D

LAUNCHED: 0947:02.4 hours PDT, 6 May 1960, 576B, Pad 2

COUNTDOWN HISTORY:

There were no aborted launch attempts on this operation.

FLIGHT PERFORMANCE:

1. Rise off was satisfactory and initial flight was apparently normal until 21 seconds after launch when the missile pitched hard over and was destroyed by Missile Range Safety Officer 26 seconds after launch. Analysis of telemetry data and recovered components indicated the pitch displacement gyro spin motor was not running during the flight. Failure of the gyro spin motors to run cannot be detected by the Guidance Loop Tests.

2. Major pieces of the missile impacted short of the Southern Pacific right of way. There was no property damage as a result of the missile destruction.

3. The airborne guidance system failed between engine start and missile lift-off and would have resulted in no guidance commands has the flight continued.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

All GSE systems operated satisfactorily. The countdown sequence required 15 minutes 56 seconds between Launcher Power On and Lift-off.

REMARKS:

Pad damage was minimal.

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Downgraded at 3 YR. intervals IAW DOD DIR 5200.10
LPY
28 Sep 62

Declassified:
6/9/72 (mc)

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6595-63-0648

A T L A S - "TIGER SKIN"

MISSILE: Atlas 74 D

LAUNCHED: 1646:16.8 hours PDT, 22 July 1960, 576B, Pad 1

COUNTDOWN HISTORY:

1. First Attempt: 22 July 1960, 1248.4 PDT Countdown was stopped due to missile fuel tank overfill indication. Red crew went to Pad to correct fuel transfer valve position indications.

2. Second Attempt: 22 July 1960, 1600.0 PDT, a fuel overfill indication was received again, but was lost after a stop and re-start of the fuel subsystem. Missile was launched at 1646:16.8 hours PDT and destroyed itself 69.1 seconds later.

FLIGHT PERFORMANCE:

The missile destroyed itself at 69.1 seconds and at 42,000 feet. With the exception of maximum pitchover rate, the flight control system appeared to be satisfactory prior to reaching time of maximum dynamic pressure (Max. Q). Pitch instability in the region of Max. Q is believed to be the reason for breakup of the missile and self destruction, due to the excessive air loads imposed.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

All GSE systems appeared to operate satisfactorily with the exception of the propellant loading system as indicated above.

REMARKS:

Continued research being conducted on above noted problems.

A T L A S - "GOLDEN JOURNEY"

MISSILE: Atlas 47D

LAUNCHED: 1338:38.08 hours PDT, 12 September 1960, Complex 576B, Pad 3

COUNTDOWN HISTORY:

Countdown was normal. There was a planned Technical Hold of six (6) minutes, 35 seconds to perform autopilot gyro kick test, just prior to commit. There was a second hold of two (2) minutes, 48 seconds for down range weather clearance. Time used for actual operational count was fifteen (15) minutes, 9 seconds.

FLIGHT PERFORMANCE:

Rise off was satisfactory, as was the programmed roll. Missile began proper pitch program with cotar plots indicating slightly high trajectory. 31 telemetry channels were lost at 109.2 seconds, due to failure of transducer 5 Volt power supply. Remaining channels covered flight control and guidance parameters, electrical measurements and the position of the propellant utilization valve. Remaining data indicate that BECO occurred at approximately 134 seconds and staging occurring at 136.8. Burroughs Computer data indicate that missile acceleration deviated from nominal starting at approximately 220 seconds of flight. Sustainer engine suffered significant loss of thrust at that time. General Electric guidance data indicate that the missile impacted approximately 480 miles short of target area.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

All GSE systems operated satisfactorily.

REMARKS:

This was the very first Atlas missile launched from Vandenberg AFB, that did not have an unplanned Technical Hold, and that was launched on the first attempt. This was the first missile prepared for launch using published Air Force Technical Data.

6595-63-0650

A T L A S - "HIGH ARROW"

MISSILE: 33"D"

LAUNCHED: 1231:11:015 PST, 29 September 1960, 576B, Pad 2, (SAC)

COUNTDOWN HISTORY:

1. First Attempt: 20 September 1960. Aborted due to No.1 vernier pressure switch failing to transmit a build-up indication, caused by internal short in the pressure switch case.

2. Second Attempt: 23 September 1960. Aborted due to No.1 booster pressure switch failing to show a build-up caused by a faulty relay circuit.

3. Third Attempt: 29 September 1960. Successfully launched. The "Red Crew" was sent to reset the control loop pressure on the Helium skid when "Pressure Above Minimum" failed to indicate.

FLIGHT PERFORMANCE:

1. Premature BECO occurred at 125.5 seconds. Servo control was lost to the booster, although hydraulic power was still available for six (6) seconds.

2. Staging discrete was sent at 135.8 seconds. Sub-routines were normal except booster section failed to jettison. Gyro traces show that after BECO the missile rotated 35° nose up and 220° yaw left. After the staging discrete was sent, pitch and yaw stability was recovered.

3. SECO and VECO occurred at 328.5 and 335 seconds, apparently due to propellant depletion.

4. Premature booster cut-off, loss of booster servo control and failure to jettison the booster section can all result from loss of continuity in the four (4) foot electrical staging umbilical cable. (J2012). Plug disconnect, which normally occurs at booster jettison, is believed to have inadvertently occurred at 125.5 seconds. In view of the force the plug encounters during acceleration, the design disconnect force is believed inadequate and is being re-evaluated.

5. Ground Guidance and PMR both place impact approximately 1200 NM short.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

Satisfactory except as noted.

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A T L A S - "DIAMOND JUBILEE"

MISSILE: 81D

LAUNCHED: 2053:49.6 PST, 12 October 1960, 576B, Pad 3 (SAC)

COUNTDOWN HISTORY:

1. First Attempt: 12 October 1960, 1255 PST. First commit attempt (T-32 Sec) faulted out as result of failure to transfer to internal power. Immediate re-commit (T-62 Sec) went into mainstage with subsequent abort due to either Booster #1 pressure switch failure to pick up or the "Thrust O.K." logic in CSM cabinet to indicate properly.

   a. Booster #1 pressure switch was changed. Relay drawer #1 in CSM was switched with Pad 2. P1007 umbilical was replaced after being accidentally ejected during maintenance and inspection after the abort.

2. Second Attempt: 12 October 1960. Successfully launched after LOX overfill probe was jumpered out at PLCU cabinet in Mezzanine by Red crew; and "Helium Load Complete" was "locked in" at the LCC. First night launch of ATLAS at Vandenberg AFB.

FLIGHT PERFORMANCE:

Lift-off was normal. The missile was self destroyed at 71.5 seconds. Telemetry data revealed increasing LOX and fuel tank pressures after 39 seconds of flight. It appears that a faulty Helium Pressure Regulator allowed overpressurization of the LOX tank, resulting in a reversal of the intermediate bulkhead, with subsequent mixing of LOX and fuel.

GROUND SUPPORT EQUIPMENT PERFORMANCE:

Satisfactory except as noted. It is noteworthy that the CSM Relay Drawer #1 used on this first attempt at launch came from Pad 2 where 33D had two engine starts followed by aborts. 33D was launched successfully after switching this drawer with Pad 3. However, APCHE Deck 31 was a "Go" against both relay drawers when checked during this particular abort turn-around.

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Downgraded at 3YR. intervals IAW DOD DIR 5200.10

LPY 28 SEP 64

Declassified: 6/9/72 (MC)

6595-63-0652

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A T L A S - "HOT SHOT"

MISSILE: 99 D

LAUNCHED: 1235.33 PST, 16 December 1960, 576 B-3 (GOLDEN RAM)

COUNTDOWN HISTORY:

Countdown started at 1205 PST. Erection, holddown and release faulted out due to Mobile Roof "OPEN" microswitch failure to pick up. Red Crew went to LSB and opened roof by LOCAL CONTROL at EMMCC. Count was picked up again at 1211. Missile was ready for commit at 1225. A nine (9) minute hold was declared for Kick Test and downrange weather. A 77 second commit was initiated at 1234 with lift-off as indicated above.

FLIGHT PERFORMANCE:

1.

Event	Flight Time
BECO	134.6
SECO	286.5
VECO	303.3
PRE-ARM	316.9
SEPARATION	321.4
RETRO ROCKETS FIRE	325.7

2. Performance of Guidance System was normal and satisfactory.

3. Impact Data:

	Long	Right	Range
MOD III	0.14 NM	0.5 NM	4384 NM
Splash Net	2.0 NM	1.0 NM	
(Splash Net Accuracy ± 1 NM)			

GROUND SUPPORT EQUIPMENT PERFORMANCE:

1. All GSE Systems operated satisfactorily except as noted above; however, the launch was re-scheduled from 15 December 1960 due to:

a. Faulty Thermal Relief Valve in the HSU.
b. Timer fault, precluding "Transfer to Internal Power" during commit.
c. B-1 Actuator failure to null during Flight Control check.

2. Damage to ISB was minimal.

REMARKS:

This was a "Hot Point" exercise with a surface burst at the Eniwetok Lagoon splash net. R/V was recovered.

Downgraded at three YR. intervals IAW DOD DIR 5200.10

~~CONFIDENTIAL~~ 28 SEP 64

Declassified: 6/9/72 (MC)

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6595-63-0653

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ATLAS - "LITTLE SATIN"

MISSILE: 95D

LAUNCHED: 1450:38.6 PDT, 24 May 1961, 576B-2 (Golden Ram)

COUNTDOWN HISTORY:

Terminal count started at 1417:32.0 PDT. Planned countdown time was 30 minutes; actual countdown time was 33 minutes 6.6 seconds. Additional time developed from verification of guidance lock-on capability and evaluation of LOX topping procedure. Missile was flight ready at 1443:15 and commit sequence was entered at 1450:02 with liftoff as indicated above.

FLIGHT PERFORMANCE:

1.

Event	Flight Time
BECO	140.60
SECO	260.08
VECO	277.72
PRE-ARM	289.30
SEPARATION	297.08
RETRO ROCKETS FIRE	299.08

2. Performance of the Guidance System was normal and satisfactory.

3. Impact Data:

	Long	Right	Range
MOD III I.P.	0.2 NM	0.7 NM	4385
	Short	**Right**	
ENIWETOK OPTICAL I.L.S.	1.25 NM	0.25 NM	

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All AGE systems operated satisfactorily.

2. Damage to LSB was minimal.

REMARKS:

This was a "hot point" exercise with a surface burst in the ENIWETOK Lagoon Splash Net. R/V was recovered. Flight demonstrated technical suitability of the "Golden Ram" configured operational Atlas D Missile.

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LPG 25 Sep 67

A T L A S - "SURE SHOT"

MISSILE: 27E

LAUNCHED: 1337:31.7 PST, 7 June 1961, OSTF #1, (6565th TW)

COUNTDOWN HISTORY:

1. First Attempt: 5 Jun 61. Launch aborted 1530 (T-40 sec) just prior to missile ready green because of Guidance System failure (computer No-GO) and an indication that the fluid level in LOX slug tank was too low (faulty calibration of delta P switch).

   a. An instrumentation wire was removed from the computer. A copper path around the delta "P" switch was installed by TVA.

2. Second Attempt: 7 Jun 61. With the exception of 2 unscheduled holds in the R Count (completion of Cotar Flight Check at R-90 and a weather and train clearance check at R-2) the entire R and T counts were perfect.

FLIGHT PERFORMANCE:

Lift off was normal. Immediately after lift-off B 1 engine experienced rapid thrust decay due to unstable combustion. Missile destruction began at 4.25 seconds after 1 inch motion.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Satisfactory except as noted.

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ATLAS - "NEW NICKEL" ~~CONFIDENTIAL~~

MISSILE: 101D

LAUNCHED: 1816:13.8 PDT, 22 August 1961, 576-B-3 (Golden Ram)

COUNTDOWN HISTORY:

Terminal count was initiated at 1801 PDT and lift off occured 15 minutes 13.8 seconds later, as planned. A technical hold delayed the R-count at R-75 for approximately four hours. Telemetry data and a voltmeter on the missile indicated a two volt missile battery voltage drop when loop test discretes, (BECO, SECO, VECO) were sent. It was found that a cross connect in the cable distribution center between the missile engine relay box and the engine ground sequencer had been improperly connected.

FLIGHT PERFORMANCE:

1.

Event	Flight Time
BECO	137.2
SECO	274.0
VECO	291.6
R/V Separation	309.1
Retro Rocket Firing	313.05

2. Performance of Guidance System was normal and demonstrated cube acquisition for the first time.

3. Impact Data:

	Short	Right	Left	Range
MOD III IPB	0.2 NM	0.2NM		4385
ENIWETOK OPTICAL	0.55 NM		0.15 NM	

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All systems operated satisfactorily except that the V-1 and V-2 yaw telemetry signals were lost at 150 and 106 seconds, respectively.

2. Damage to LSB was minimal.

REMARKS:

This was a "Hot Point" R/V exercise without a SOFAR bomb installed. The R/V was recovered. The Acoustica PU system was flown open-loop with the PU valve fixed at 30.6 degrees.

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Downgraded at 3YR intervals IAW DOD DIR 5200.10
LPY 28 SEP 64

6595-63-0656

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A T L A S - "BIG PUSH"

MISSILE: 53D

LAUNCHED: 1501:49.15 PST, 29 Nov 1961, 576-B-2

COUNTDOWN HISTORY:

This was the third attempt to launch 53D. Two previous attempts terminated during ignition when the Sustainer would not "boot-strap". Two problems were eventually corrected: a procedural error during engine flush and purge with "Trich"; and installation of the correct model sustainer staging hydraulic disconnect relief valve. Terminal count was normal.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	138.7	136.53
SECO	272.6	269.95
VECO	289.4	287.95
R/V Separation	307.6	304.85

2. Performance of Guidance System was normal and demonstrated cube acquisition for the second straight time.

3. Impact Data:

	Over	Left	CE	Range
Eniwetok Optical Air Burst:	.3NM 8400 feet (approx.)	.4NM	.5NM	4385

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All systems operated satisfactorily except that missile was acquired in Cube No. One at 3 degrees to the right of cube center. This was attributed to autopilot programmed roll being 3 to 4 degrees less than scheduled.

2. Damage to LSB was minimal.

REMARKS:

This was the first SAC AFR 80-14 Cat III launch. Propellants available at VECO would have provided 2250 NM additional range.

A T L A S - "BIG CHIEF"

MISSILE: 82D

LAUNCHED: 1318:36.9 PST, 7 December 1961, 576 B-3.

COUNTDOWN HISTORY:

This was the second post Golden Ram CAT III launch. Two attempts were made. The first attempt was terminated because of a dirty relay contact in PCU logic, not allowing flight pressure during the commit sequence. The second attempt was normal, a 40 minute hold for range (trains and boats). Terminal count progressed normally once started.

FLIGHT PERFORMANCE:

1. Event

Event	Actual
BECO	135.40
SECO	274.00
VECO	290.80
Pre-Arm	304.05
R/V Separation	308.90

2. Performance of guidance system was normal and satisfactory. Cube acquisition techniques used.

3. Impact Data: MOD III

Short	Right	CE	Range
.75	.30	.81NM	4383

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. The ground support equipment operated normally during the count, except as noted above.

2. Damage to LSB - minimal.

REMARKS:

The R/V high altitudes air burst was based upon visual observation from the ground and aircraft observors at approximately 8400 feet. Additional range possible - 2266 NM. The acoustica PU system was flown open loop, fixed blade angle.

ATLAS "BLUE FIN"

MISSILE: 123D (S/N 60-5465)

LAUNCHED: 1302":26.7' PST; 17 Jan 62; 576B-2

COUNTDOWN HISTORY: This was the third SAC Atlas "D" Category III launch following completion of the Golden Ram modification program at 576-B complex. A fully successful DPL had been performed one day previous to this first launch attempt. Entire launch operation was smooth and normal until 10 seconds prior to planned initiation of final 104 seconds commit sequence. LOX tank pressure dropped to 1.9 psi (ΔP remained steady), tank pressurization went to emergency mode and dropped to a steady 1.6 psi. System was successfully recycled to automatic pressurization on third attempt. LOX topping was resumed (after being stopped at first emergency indication) and commit sequence was entered after a 10 minute range operational hold for a train. Ignition and lift-off normal.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (SECONDS)	ACTUAL
BECO	138.7	139.0
JETTISON	141.7	142.1
SECO	272.6	269.4
VECO	289.4	287.3
R/V Separation	307.6	304.0
Time of Flight	1655 seconds	1641 seconds

Mod III guidance was employed in cube acquisition made for the fourth consecutive launch from this complex. Missile was acquired in first cube, 84 seconds, range of 15 N. miles, 1½ degree left of cube center.

IMPACT DATA:	Long	Right	Range
Mod III IP	0.8 N.M.	0.65 N.M.	4385 N.M.

Preliminary optical confirmed circular error within one mile.

AGE PERFORMANCE: All systems performed satisfactorily.

REMARKS: Preliminary calculations of fuel-LOX residuals show 10.5 seconds burning time remaining at SECO. This is equivalent to an additional 2300 nautical miles or total of 6685 miles NO-PU range along target trajectory.

Pad damage was very minimal, the least experienced to date.

A T L A S - "Blue Moss"

MISSILE: 132D (S/N 60-5474)

LAUNCHED: 1328:27.7 PST, 23 January 1962, 576 B-3

COUNTDOWN HISTORY:

This was the fourth SAC Atlas "D" Category III launch at 576B Complex. A fully successful DPL had been performed on 19 January 1962. The entire launch operation was smooth and normal until just before completion of LOX load. Guidance called a 15 minute hold at 1239, and then changed to a 30 minute hold at 1243. The monopulse elevation error amplifier had to be replaced. Guidance was ready to pick up the count again at 1314, there was a hold for down range weather until 1327 when PMR gave a range green. Commit sequence was started at 1327:45. Ignition and lift off normal.

FLIGHT PERFORMANCE:

1. Event	Nominal	Actual
BECO	138.7	136.2
SECO	272.6	268.4
VECO	289.4	287.4
Pre-Arm	Not Available	298.1
R/V Separation	" "	303.4

2. MOD III guidance was employed in cube acquisition. Missile was acquired in the first cube.

3. Impact Data: MOD III IP

Short	Right	Range
0.4 NM	0.1 NM	4384

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

All systems satsifactory, but land line telemetry indicated a 33 lb spike on the Booster LOX Reference Regulator. A 10 lb spike is allowable. A fault is suspected in the wire from the transducer through the staging plug to the recorder. LOX bleed was not noticed on Vernier Engine #2 until the missile went to flight pressure.

REMARKS:

Residuals were not received. At BECO minus 2 seconds, the telemetry transducer power supply failed.

Pad damage was minimal, some gel had to be washed from the flame bucket area.

ATLAS "BIG JOHN"

MISSILE: 137D (S/N 60-5479)

LAUNCHED: 1504 PST; 16 Feb 1962; Pad 576B-2

COUNTDOWN HISTORY: "Big John" was the fifth Atlas D launch from Complex 576B during the SAC Cat. III program. A prior launch attempt on the preceding day had been aborted during final 104 seconds of commit sequence when system would not transfer to internal pressure. A faulty airborne pressure valve with inoperative drive motor was subsequently replaced, leak checked, and launch rescheduled. Two readiness count holds for total of 2 hours 10 minutes were imposed for completion of unscheduled maintenance tasks. A range operational hold (Southern Pacific train) for 30 minutes occurred at R-0. The terminal count was routine and uninterrupted except for a one-minute range hold at "fuel complete" (LOX-loading was purposely delayed until "range clear") for another train. All subsystems functioned normally through lift-off.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (SECONDS)	ACTUAL
BECO	138.7	136.7 (221,000')
JETTISON	141.7	140.0
SECO	272.6	269.3
VECO	289.4	286.8
Pre-Arm	289.4	299.6
R/V Separation	307.6	304.5

This was the sixth consecutive launch from 576-B employing cube acquisition mode for Mod III guidance and lock-on has been achieved in Cube #1 on all occasions. Solid lock was obtained at 84 seconds and 15 miles range.

IMPACT DATA:	Long	Right	Radial
Mod III IP	0.4 N.M.	0.3 N.M.	0.5 N.M.

Optical data in target area not yet available.

AGE PERFORMANCE: All systems performed satisfactorily.

REMARKS: Preliminary calculations of propellant residuals reflect 9.8 seconds sustainer burning time remaining at SECO, with an excess of 1305 pounds RP-1. This is equivalent to an additional 2146 nautical miles or total of 6531 miles along target trajectory.

This launch was conducted by crews from the 549th SMS, Offutt AFB, Nebraska. All of the remaining Cat III launches in this program will likewise be performed by either Warren or Offutt teams.

Pad damage was again very slight with an estimated 7 days refurbish time, including 2 days checkout.

ATLAS "CHAIN SMOKE"

Missile: 52D (S/N 58-2223)

Launched: 1430PST; 21 Feb 1962; Pad 576B-3.

Count-Down History: This was the sixth AFR 80-14 CAT III launch scheduled in the Atlas "D" test program. The launch crew was from the 549th SMS, Offutt AFB. A 55-minute hold was encountered at R-75 minutes to allow PMR turnaround following earlier "Cable Splice" (Discoverer) launch. A technical hold of 43 minutes immediately following "fuel load complete" (LOX-loading was purposely delayed) was related to guidance loop test readouts. "Red" readouts were obtained on Sustainer and Vernier #1 engine gimbal yaw positions. A second and third loop test was run with same results. The decision to continue countdown was made following quick analysis of two separate telemetry data sources which indicated no faults in the airborne elements. All subsystems apparently functioned normally through lift-off.

Flight Performance: The missile destroyed itself 73.2 seconds after lift-off. Incident investigation is being conducted by 1st STRATAD under presidency of Col. Bentley. Without presuming cause, the following telemetry data is tabulated beginning with first reported abnormality:

T+38.5 seconds - Sustainer hydraulic pressure rose from nominal 3050 to 3450 psi for one second duration. The rapid decay indicated an abnormal pressure peaking surge.

T+49.3 - Sustainer GG chamber Pressure (P_c), sustainer P_c, sustainer fuel pump pressures, Verniers #1 and #2 P_c all dropped to zero.

T+58.7 - Boosters #1 and #2 P_c decayed from nominal 550 to 420 psi. Booster GG P_c dropped at same time from 490 to 310 psi.

T+64. - LOX tank ullage pressure rose from nominal 30 psi to 40 psi within 7 scds.

T+68.1 - Boosters #1 and #2 P_c and booster GG P_c decayed to zero.

T+73.2 - All Telemetry lost.

Radar tracking was continued on 3 large items with estimated impact 65 N. miles, on course, downrange. Guidance reported missile roll and pitch program good with missile ~~on course prior to incident.~~

A T L A S - "SILVER SPUR"

MISSILE: 66E

LAUNCHED: 1614:09:05 PST, 28 February 1962, OSTF#1.

COUNTDOWN HISTORY:

This was the fourth attempt to launch 66E. The first attempt was terminated during the terminal count, no power to the ARMA guidance platform on 20 February 1962. The second attempt was terminated during the commit sequence, LO_2 commit fault, missile inverter red, hydraulics/pneumatics red on 23 February 1962. The third attempt was terminated during the terminal count, guidance amber, no optics to the guidance platform on 27 February 1962. Terminal countdown started at 1600 hours on 28 February 1962. Normal count of 14 minutes 47 seconds.

FLIGHT PERFORMANCE:

1. Event	Planned	Actual
BECO	125.5	125.6
Booster Sep	128.25	None
SECO	295.50	None
VECO	311.62	None
R/V Sep	312.31	None

2. Performance guidance unknown; appears normal to 175 seconds.

3. Impact Data: GERSIS unknown. Wake Island reported a splash imput; no coordinates available.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

The primary objectives to obtain data on operational factory to launch sequence - 100%. Missile 66E was successfully launched from OSTF#1 on 28 February 1962.

REMARKS:

This was the first launch of the Atlas "E" missile from an operational configured facility.

ATLAS "CURRY COMB"

MISSILE: 134D (S/N 60-5476)

LAUNCHED: 1639:32 PST; 23 March 1962; Pad 576-B-2

COUNTDOWN HISTORY: This was the seventh Atlas D missile launched at Complex 576-B since the beginning of SAC's CAT III Program at VAFB. Terminal count was initiated at 1547 PST with an intentional hold at LOX-complete "missile green" point to allow the commit sequence to be timed with the arrival of the Presidential party at the vantage viewing point. The only problem during countdown involved thrust section heater regulation. An intermittent thrust section heater "red" was traced to a faulty temperature regulator with widened limits. Close monitoring of landline instrumentation allowed the count to proceed. All other subsystems functioned normally through lift-off with no operational holds encountered.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (SECONDS)	ACTUAL
BECO	138.7 (221,000')	136.8
JETTISON	141.7	139.8
SECO	272.6	272.5
VECO	289.4	290.2
Pre-Arm	VECO +10	302.6
R/V Separation	VECO +35	307.4
Time of Flight	1655	1690

MOD III Guidance acquired lock-on in the first cube at 83.7 seconds, 15 N. Miles and $\frac{1}{2}$° left of cube center.

IMPACT DATA:	Short	Right	Radial
MOD III IP (N. Miles)	0.025	0.88	0.88

REMARKS: Useable propellant residuals were calculated to be 2881 # LOX, 1290 # RP-1, equivalent to an additional 14.7 seconds time of flight with an excess of LOX. The additional range available of 3234 N.M. provides a max range of 7619 N.M. along target trajectory.

Maj Simonson, as Missile Combat Crew Commander (MCCC), was chief of the primary launch crew from 565 SMS, Warren AFB. Pad damage was nominal.

This exercise was unique in two respects. It was in direct support of Project Skyrocket, the visit of President Kennedy to VAFB. All three pads of 576-B complex were fitted with missiles and at Ready State A "green-boards" at start of exercise. The squadron was prepared to launch all three at roughly one-hour intervals (time span is a PMR limitation) had the direction been received from General Power, CINCSAC. The second and third missiles are now scheduled for multiple launch 10 April 1962.

ATLAS "CURRY COMB - PHASE II"

MISSILE: 129D (S/N 60-5471)

LAUNCHED: 1757:26 hours PST; 11 April 1962; Pad 576-B-2

COUNTDOWN HISTORY: Readiness count proceeded to R-0 at 16:30 PST on schedule with terminal count initiated at 1631. A technical hold was imposed at 1644 (after 2½ minutes of LOX loading) because of a console "red" indication of integrator null failure at completion of guidance vertical loop test. LOX drain was initiated immediately to allow "red team" LSB access to check umbilical #1001. Console indication corrected itself before the crew actually arrived at the pad. Range hold for shipping was imposed before the technical hold was released. A fuse was blown (and subsequently replaced) in the LOX master sequencer, mezzanine LSB, during the range operational hold. Terminal count was picked up at T-13 minutes at 1742 PST. Final commit sequence was entered at 1755 with lift-off at 1757. All subsystems functioned normally through lift-off except as detailed above.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (Seconds)	ACTUAL
BECO	138.7	141.65
JETTISON	141.7	144.65
SECO	272.6	251.35
VECO	289.4	269.10
PRE-ARM	298.4	281.45
R/V SEPARATION	307.6	286.65
TIME OF FLIGHT	1655	1569

MOD III guidance acquired lock-on in the first cube at 83.7 seconds, 15 N. miles and 2.5° left, 2.3° low of precomputed cube. The flight apogee was 375 miles versus nominal of 516 miles, thus reducing time of flight and causing discretes after booster separation to occur before nominal.

IMPACT DATA:	LONG	RIGHT	RADIAL
MOD III IP (N. Miles)	0.7	1.4	1.6

REMARKS: Useable propellent residuals were calculated to be 1834# LOX (9.9 seconds) and 2138 # RP-1 (25.1 seconds), equivalent to an additional range of 2197 N.M. for a total calcualted range along target azimuth of 6582 N. Miles.

Maj Lyells was MCCC and chief of the primary launch crew from 549th SMS, Offutt AFB. Pad damage was nominal with refurb estimated complete in seven (7) working days.

This missile had been in essential "first-readiness" since 23 March (19 days), having been in ready back-up status during Project SKYROCKET. First-readiness was interrupted only for a dress rehearsal DPL on 9 April 1962.

ATLAS"BLUE BALL"

MISSILE: 140 D (S/N 60-5482)

1962

LAUNCHED: 1524 hours PST; 27 April; Pad 576-B-2

COUNTDOWN HISTORY: Terminal count started on schedule at 1220 PST. During fuel loading and LOX-chilldown sequence, PMR stated intentions to call an operational hold for IBM 7090 computer malfunction. No estimate for hold duration was available so LOX loading was not initiated. When it became obvious the hold would be for an extended time, LN2/HE loading was stopped and the LN2 ground supply was reserviced. Terminal count was reinitiated (at approximately T-15 point) at 1508 with lift-off some 16 minutes later. Total propellant loading times were 6 minutes 17 seconds for fuel and 6 minutes 12 seconds of LOX, the best performance todate for a CAT III Atlas D. The PMR computer problem was traced to an incorrect parameter tape read into the computer memory. A new tape was run from punch cards, inserted and checked out by mission simulator tape prior to releasing the count.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (Seconds)	ACTUAL
BECO	138.7	134.15
JETTISON	141.7	137.5
SECO	272.6	276.55
VECO	289.4	294.95
PRE-ARM	VECO + 12	306.95
R/V SEPARATION	SECO + 35	311.25
TIME OF FLIGHT	1655	1734

MOD III guidance acquired in the first cube at 815 seconds, 15 N. miles and 2° high and 1° left of cube center. GERSIS likewise acquired in its first cube at 104 seconds. Flight apogee was 630 N. miles compared to nominal 516 n. miles. This correlates with the early BECO and the lateness of the remaining discretes.

IMPACT DATA:

	SHORT	RIGHT
MOD III IP (N. Miles)	0.07	0.7
GERTS IP	0.3	0.8

REMARKS: This was the ninth Atlas D CAT III launch from Vandenberg and represents the eleventh total success out of the last twelve missiles launched from complex 576-B. Maj Henderson was MCCC and chief of the primary launch crew from 564th SMS, Warren AFB. Pad damage was nominal, with refurb estimated complete by 2400 hours, 8 May (7 working days).

The PU fixed valve angle setting for this missile was re-computed and adjusted within the week prior to launch to more nearly remove the excess fuel residual bias experienced in recent no-PU flights. The 2700# LOX and 1845# fuel residuals are equivalent to 13.6 seconds additional sustainer burning and 2924 N. miles. Excess fuel (at LOX depletion) was reduced to a calculated 433#. Total range along barrett azimuth would have been 7309 N. miles.

ATLAS "CANNONBALL FLYER"

MISSILE: 127D (S/N 60-5469)

LAUNCHED: 1731:48.7 hours PDT; 11 May 1962; Pad 576-B-3

COUNTDOWN HISTORY: Terminal count started 6 minutes behind schedule at 1331 PDT, delay being attributed to confusion over termination of "minimum radiation period" between STRATAD Command Post and PMR. All systems were operating normally through fuel and LOX complete except for failure indications during loop tests with operator console readouts of Vernier #1 yaw and Sustainer yaw gimbals "red" and programmer reset "red". A second loop test was performed with identical results. LN HE was stopped and vented and LOX drained to allow red team access to LSB for trouble shooting. After 4 more unsuccessful loop tests and considerable trouble shooting at LSB, the faulting condition was traced to instrumentation wiring that had been installed during the autopilot shake test at R-40 and not subsequently removed. These wires were disconnected and the seventh loop test proved good. Terminal count was reinitiated at approximately T-15 at 1600 with LOX loading. The 99.8% LOX probe failed (console indicated wetted probe) and shut down LOX rapid and fine load simultaneously with wetting of 90% LOX probe. LOX was drained and checklist # 32 was complied with in re-wiring the AGE to the 100% Acoustica spare probe. LN2 was reserviced during this technical hold. The count was again picked up at approximately T-15 at 1716 with lift-off occurring at 1731 PDT. Technical holds totalled 3½ hours.

FLIGHT PERFORMANCE:

EVENT	NOMINAL (SECONDS)	ACTUAL
BECO	138.7	140.7
JETTISON	141.7	143.8
SECO	272.6	279.8
VECO	289.4	295.15
PRE-ARM	VECO + 12	309.85
R/V SEPARATION	SECO + 35	315.1
TIME OF FLIGHT	1655	1614

MOD III guidance acquired solid lock in the first cube at 81.9 seconds, 15 N. miles range, 0.5° high and 0.5° left of cube center. GERSIS beacon was not aboard for this mission. The lower-than-nominal trajectory explains the late BECO and short time-of-flight. Sustainer thrust measured some 5000# below nominal and caused the late SECO.

IMPACT DATA:

	SHORT	RIGHT	RADIAL
MOD III IP (N.Miles)	0.6	0.58	0.82

REMARKS: This 10th Atlas D CAT III launch was directed by MCCC Maj Flaugher and crew of 565th SMS, Warren AFB. Pad damage was very minimum and rehab was complete at 1200 hrs, 14 May (less than 3 calendar days) except for one umbilical not received in the rehab kit.

Calculated propellant residuals of 1882# LOX and 1347# fuel would provide 2433 N. Miles additional range for total 6818 N. Miles range along ~~Eniwetk target azimuth.~~

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A T L A S - "ALL JAZZ"

MISSILE: 21-D

LAUNCHED: 1057:42:66Z, 0357 PDT, 26 June 1962, 576-B-3 (CAT III)

COUNTDOWN HISTORY:

This was the third attempt to launch 21-D. First attempt was stopped during erection on 20 June 1962. The second attempt was stopped during commit start on 21 June 1962. These two aborts were corrected by: (1) readjusting the 2 inch use-off panel on first abort, and (2) cleaning relays in the PCU on second abort. A successful wet dress rehearsal was completed on 23 June 1962. The terminal count was extended 8 minutes due to running a second guidance loop test. The readiness count was delayed 2 hours and 22 minutes for the Nike Zeus down range back-up missile and a radar problem.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	138.92	138.85
SECO	271.25	271.05
VECO	288.00	287.45
R/V Sep	306.05	306.55

2. Performance of guidance system was normal and demonstrated cube acquisition. This was achieved in the first cube.

3.

Impact Data:	Over	Right	Range
Kwajalein Atoll	.7 nm	.04	4220

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All systems operated satisfactorily on the attempt.

2. Pad damage was normal.

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REMARKS:

This was a SAC Category III test and the first launch of an AFSC developed target vehicle in support of the Army Nike Zeus development program. The primary objectives of this launch were met. The MD1 was actuated and confirmed by two ground stations and WV2 aircraft. TRAP aircraft data was obtained. Preliminary ~~information~~ (no public release, DOD directive).

a. The N-Z radar did acquire and track ~~the target vehicle~~.

b. Nike-Zeus was launched. Therefore the four primary objectives of this launch were met 100%.

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DOWNGRADE AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

A T L A S - "LONG LADY"

MISSILE: 141-D

LAUNCHED: 0957:57:00 PDT, 12 July 1962, 576-B2 (CAT III)

COUNTDOWN HISTORY:

This was the second attempt to launch 141-D. The first attempt was aborted at 1001 PDT on the 9th of July due to an automatic commit stop in the engine firing sequence, verniers did ignite, abort occurred in the booster ignition start loop. The second attempt was successful, no holds, lift-off as scheduled at 0957:57:00. The terminal count was 17:57 minutes.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	138.70	135.35
SECO	280.99	285.65
VECO	297.20	302.25
R/V Sep		320.45

2. Performance of guidance system was normal and demonstrated cube acquisition. This was achieved in the first cube.

3.

Impact Data:	Short	Right	Range
Philippine Sea	0.06	0.32	6111.2 NM

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All systems operated satisfactorily.

2. Pad damage was normal.

REMARKS:

This was a SAC Category III launch by Major Marak, Crew RO-4 from the 549th SMS, Offutt AFB. This was the first attempt to demonstrate long range flight of the Atlas "D" using fixed blade angle setting. No PU flight.

6595-63-0668

A T L A S - "EXTRA BONUS"

MISSILE: 67E

LAUNCHED: 1411:33:98 PDT, 13 July 1962, OSTF-1 (CAT II)

COUNTDOWN HISTORY: This was the first attempt to launch 67E. The only hold was for 11:56 minutes for resolutions of a guidance system redline indication. The terminal count was 25:57.5 minutes.

FLIGHT PERFORMANCE:

1. Event	Planned	Actual
BECO	125.3	124.64
SECO	303.2	287.21
VECO	317.2	288.204
R/V Sep	320.2	Achieved

2. Performance of the guidance system seemed normal up to SECO. It is suspected that there was a LOX leak prior to BECO. This could result in an increase in sustainer engine performance causing early SECO. Telemetry indicates that at SECO engine shutdown was erratic with some sustainer engine thrust continuing after SECO signal was generated. This residual thrust was about what would have been obtained in vernier solo operation; therefore, the vernier shutdown early as would be expected. It was also determined that prearm was inhibited because the residual thrust prevented the necessary free fall condition. This same condition of residual thrust was the likely cause of the R/V overshoot. In addition, the retrorockets failed to fire. This was possibly due to the retrorocket fairing loss and resulting heat damage in flight.

3. Impact Data: Gersis data indicates an R/V overshot of 163.7 miles. The target area advises excellent film footage on trajectory high over the lagoon acquired from Site Yvonne only. Thus unable to estimate altitude at a given point over the lagoon. Estimate of a splash long and beyond line-of-site.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All equipment operated satisfactorily.

REMARKS:

This was the first launch of an "Operation Shotgun" missile.

A T L A S - "FIRST TRY"

MISSILE: 13-D (S/N 57-2631)

LAUNCHED: 1105:27:65Z, 0405 PDT, 19 July 1962, 576-B-1 (CAT III)

COUNTDOWN HISTORY:

This was the first attempt to launch 13-D. A successful wet dress rehearsal was completed on 16 July 1962. The readiness countdown was first delayed 98 minutes to resolve technical problems in the Nike-Zeus target tracking radar computer. Throughout the readiness count a LOX purity problem existed in the primary LOX tank and the backup LOX tank was being filled with fresh LOX. The fill operation was not completed in time to resume the readiness count resulting in an additional hold for 43 minutes. The terminal count was extended 12 minutes due to a range hold. There were no faults during the terminal count.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	138.92	135.70
SECO	271.25	276.55
VECO	288.00	295.05
Prearm	300.95	306.60
R/V Sep	308.25	311.80

2. Performance of guidance system was normal and demonstrated cube acquisition. This was achieved in the first cube.

3. Impact Data:

Short	Left	Range
0.42 NM	0.18 NM	4220

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All systems operated satisfactorily.

2. Although there was a minor explosion and fire resulting from LOX fill spillage near the LOX lift-off disconnect, the pad damage was normal.

REMARKS:

This was a SAC Category III test and the second launch of an AFSC developed target vehicle in support of the Army Nike-Zeus development program. The primary objectives of this launch were met. The MDI was actuated and confirmed by VAFB and PMR. Trap aircraft data was obtained. Preliminary information (no public release, DOD directive).

a. The N-Z radar did acquire.
b. The N-Z was launched.
c. N-Z trajectory was normal.
d. The TTR did not track the target vehicle.

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A T L A S - "HIS NIBS"

MISSILE: 15-F

LAUNCHED: 1407:10:8 PDT, 1 August 1962, 576-E.

COUNTDOWN HISTORY:

This was the first attempt to launch 15-F. Count was nominal but a 90 second hold was executed after missile ready green to start telemetry recorders. Actual terminal countdown time was 9 minutes and 15 seconds.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	125.3	124.5
Staging Camera Ejection	135.3	134.5
SECO	303.8	298.5
VECO	317.2	311.7
Prearm	318.3	312.8
Seperation	320.3	314.8
Retrorockets	322.3	316.8

2. Flight performance was nominal with the exception that SECO was approximately 5 seconds early, however, this was within specifications. All objectives were satisfied with the exception of data which was expected to be obtained from the staging camera. The staging camera ejected on schedule. Chaff was sighted by recovery aircraft in the drop area but due to no beacon return the staging camera was not recovered.

3. Impact Data: Gersis data indicated impact to be 1.81 NM left, 2.77 NM short. Splash net indications were azimuth .0 and 4.5 miles short.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

1. All equipment operated satisfactorily.

REMARKS:

This was the first launch of an operationally configured Atlas F missile from an operationally configured site. Pad damage was minimal at 576-E.

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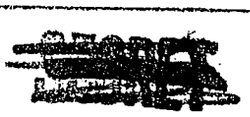

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6595-63-0637

A T L A S - "PEG BOARD I"

MISSILE: 8D

LAUNCHED: 1551:08:59 PDT, 9 August 1962, Pad B-3

COUNTDOWN HISTORY:

The first attempt was aborted on 31 July 1962 at 1945 PDT due to discrete faults in guidance loop test, 8D pad B-3. The decoder was changed. The second attempt was stopped at 9:30 in the terminal count on 2 Aug 1962 at 1253 due to B-1 pitch actuator -feedback transducer on 8-D. Mission was cancelled at 1645. The third attempt was aborted at 2024 on the 3rd August 1962 due to B-1 and B-2 pitch discretes during guidance loop test on missile 8D. Loop test was red on missile 87-D, pad 2. Both 8D and 87D were successfully launched on the fourth attempt on 9th August 1962.

FLIGHT PERFORMANCE:

1. Event

Event	Planned	Actual
BECO	138.7	135.6
JETTISON	141.7	138.7
SECO	272.6	287.4
VECO	289.37	304.2
R/V Separation	307.6	322.6

2. Guidance: Mod III acquired in the first cube at 85 seconds.

3. Impact Data: Mod III

Long	Right
.23	.32

REMARKS:

Missile 8D was configured with MK 3 Mod 3D with a modified ablative flap. Primary objective was to successfully launch two At las in minimum tactical interval. This objective was met 100%. Actual time between launches was 11:13 seconds plus 2:58 seconds due to range hold. Launch and guidance crew was commanded by Major Duckworth of the 564th SMS, Warren AFB, Wo.

A T L A S - "PEG BOARD II"

MISSILE: 87D

LAUNCHED: 1605:19:45 PDT, 9 August 1962, Pad B-2

COUNTDOWN HISTORY:

The first attempt was aborted on 31 July 1962 at 1945 PDT due to discrete faults in guidance loop test, 8D, Pad B-3. The decoder was changed. The second attempt was stopped at 9:30 seconds in the terminal count on 2 August 1962 at 1253 due to B-1 pitch actuator - feedback transducer in 8D. Mission was cancelled at 1645. The third attempt was aborted at 2024 on the 3rd August 1962 due to B-1 and B-2 pitch discrete during guidance loop test on missile 8-D. Loop test was red on missile 87-D, Pad 2. Both 8-D and 87-D were successfully launched on the fourth attempt on 9 August 1962.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	138.7	139.7
Jettison	141.7	142.5
SECO	272.6	262.5
VECO	287.37	280.2
R/V Sep	307.6	297.4

2. Mod III guidance acquired lock-on in the first cube at 85 seconds.

3. Impact Data: Mod III - Invalid due to full negative roll of booster caused the loss of hydraulic pressure after an incomplete hydraulics evacuate.

Navy Splash Data:

Short	Left
1.5	0.1

REMARKS:

Missile 87-D was configured with a standard MK-3 Mod 3D re-entry vehicle. Primary objective was to successfully launch two Atlas missiles in minimum tactical interval. This objective was met 100%. Actual time between launches was 11:13 seconds, plus 2:58 seconds due to range hold. Launch and guidance crew was commanded by Major Duckworth of the 564th SMS, Warren AFB, Wo.

63-1106 64-4310

A T L A S - "CRASH TRUCK

MISSILE: SM65F - 57F

LAUNCHED: 1411:21:2 PDT, 10 August 1962, OSTF-2

COUNTDOWN HISTORY:

Launched on the first attempt. Countdown was nominal, but a 66 second hold was made prior to entering the commit sequence due to a range hold.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	125.3	Not Accomplished
Staging Camera Ejection	135.3	Not Accomplished
SECO	303.8	Not Accomplished
VECO	317.2	Not Accomplished
Prearm	318.3	Not Accomplished
R/V Sep	320.3	Not Accomplished

2. Impact Data: Not Applicable.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

All equipment operated satisfactorily.

REMARKS:

The countdown and lift-off was nominal, however the missile was destructed due to loss of guidance roll voltage input to the flight control system. The missile did not roll program causing range to send manual fuel cut-off at approximately 66.3 seconds. The destruct was sent at 67.3 seconds. No damage to civil personnel or property has been reported. Telemetry indicated that guidance did generate the roll signal. The lift cameras were recovered.

63-1107

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ATLAS - "BRIAR STREET"

Missile: 4D

Launched: 0446:25:3 PDT, 2 October 1962

Countdown History:

The first attempt was aborted on 28 September 1962 at 0515 PDT due to down range problems in the Nike-Zeus weapon system. The second attempt resulted in a successful launch after several hours hold for down range problems. The terminal count was a nominal 15:36 minutes plus a 55 second range hold prior to starting commit.

Flight Performance:

1.

Event	Planned	Actual
BECO	138.92	138.2
Jettison	141.91	141.2
SECO	271.25	181.3 (Malfunction)
VECO	288.0	46.0 (Malfunction)
Pre Arm	300.95	Not Sent
R/V Sep	308.25	Not Sent

2. MOD III Guidance acquired lock-on in the center of the first cube.

3. Impact Data:

It is estimated that the booster and target vehicle impacted between 2300-2400 NM short and slightly left of predicted track. MOD III Guidance lost track lock-on at 400 NM and only had an intermittent rate lock-on after BECO. After an early vernier engine shutdown, roll stabilization was maintained throughout the booster phase by booster gimballing. After staging, a constant 3.2 °/sec roll rate was detected which persisted until telemetry signal was lost. Intermittent rate lock-on was attributed to the roll rate of the booster. The early shutdown of the vernier engines caused anomalies in the propellant flow to the sustainer engine and sustainer gas generator after staging. The early shutdown of the sustainer is attributed to deterioration of performance of the sustainer GG/pump.

Remarks:

The PMR GERSIS ground station did acquire in the first cube and did track the vehicle to the estimated impact. The Nike-Zeus weapon system did not acquire the vehicle due to the short range.

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6575-63-0638

ATLAS - "CLOSED CIRCUITS"

MISSILE: 159D (S/N 61-2582)

LAUNCHED: 0359:25.2 PDT, 26 October 1962

COUNTDOWN HISTORY:

This was the first BSD/Contractor launch of a Group "A" Nike-Zeus target booster from 576-A-1 after extensive modification to the complex. The first attempt resulted in a successful launch after several hours hold for down range problems. The terminal count was a nominal 19:30 minutes.

FLIGHT PERFORMANCE:

1.

Event	Planned	Actual
BECO	135.9	134.3
SECO	277.0	274.7
VECO	297.0	294.8
RV Sep	VECO + 3	298.1
Retro Rockets Fire	VECO + 5	299.8

2. MOD III Guidance acquired lock-on in the center of the first cube at T + 85 seconds.

3. PMR GERSIS station acquired in the first cube and did track the vehicle to estimated impact.

4. Impact Data:

The MOD III Guidance IIP was 0.25 NM long and 0.05 NM right. The GERTS IIP was 3.37 long and 0.2 NM right. One known anomaly occurred during flight. This was complete and abrupt loss of TLM signal 1.2 seconds after the retro rockets fired. A possibility exists that the missile tank failed at this time. This is substantiated somewhat by a preliminary report from AMC/PFO Kwajalein which indicates early break-up of the booster based on radar detection.

REMARKS:

1. The Nike-Zeus weapon system did acquire the incoming target screen but did not launch the Nike-Zeus missile.

2. A scientific passenger pod, #20, was also carried piggy-back on a non-interference basis. The pod contained Office of Aerospace Research experiments and TLM information was recorded.

ATLAS - "ACTION TIME"

Missile: SM65F - 13F

Launched: 1436:02.64 PST, 14 November 1962

Countdown History:

Launched on the first attempt. Countdown was normal, but a 103.5 second hold was made prior to entering the commit sequence to confirm range clearance and instrumentation support.

Flight Performance:

1.

Event	Planned	Actual
BECO	125.3	120.21
Staging Camera Ejection	135.3	125.2
SECO	303.8	94.2
VECO	317.2	95.0
Pre-Arm	318.3	Not Accomplished
R/V Separation	320.3	Not Accomplished

2. Impact Data, GERTS: 360 Nautical miles downrange on Azimuth.

Aerospace Ground Equipment Performance:

All equipment operated satisfactorily.

Remarks:

The countdown and lift-off was nominal, and the first 19.6 seconds of flight appeared to be satisfactory. At about 19.6 seconds the following indications occurred:

a. Fire was observed external of the engine boots.
b. Engine compartment temperatures began to rise.
c. Sustainer instrument panel temperature began to rise.
d. LOX tank pressure started abnormal decay.
e. Booster helium bottle pressure started abnormal decay.
f. A 3.8 G peak-to-peak axial acceleration was recorded.
g. The yaw rate gyro showed perturbations of 7 degrees per second.

This was accompanied with thrust section ambient temperatures and instrument panel temperature rise above normal ambient condition. At 94.6 seconds the sustainer engine, followed by vernier engines, were shutdown prematurely without a signal from guidance. At 120.21 seconds the booster engines shutdown prematurely from a discrete guidance signal sent in error by the ARMA computer. Staging camera impact was short of recovery area and was not recovered. Lift-off cameras were recovered.

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ATLAS - "DEER PARK"

Missile: 161-D (SIN 61-2584)

Launched: 0338.03.9 PST, 12 December 1962

Countdown History:

This was the first BSD/contractor launch of a Group "A" Nike-Zeus target booster from the 576-A-3, after extensive modification to the facility. It was the second launch of a Group "A" target missile from 576-A complex. The first attempt resulted in a successful launch after an approximate hold of 3 hours and 30 minutes. Forty-five minutes of the hold was attributed to the down range weapon system and the remaining to the target system. The target system required a change of the guidance rate beacon. The terminal count was nominal, requiring 21:50 minutes including a short hold for range verification.

Flight Performance:

1.

Event	Planned	Actual
BECO	136.04	134.3
SECO	273.1	272.25
VECO	293.0	292.4
R/V Separation	VECO +3 sec	VECO +3 sec
Retro-rockets Fire	VECO +5 sec	VECO +5 sec

2. MOD III guidance acquired lock-on in the first cube at T+85 seconds.

3. PMR GERTS station acquired in the first cube and tracked the vehicle to estimated impact.

4. Impact Data: The MOD III guidance IIP was 0.30 NM left and 0.20 NM short for a CEP of 0.36. The GERTS IIP 0.77 NM left and 0.45 NM short. There were no known anomalies.

Remarks:

The Nike-Zeus weapon system did acquire the incoming target and launched two Nike-Zeus missiles. The first Nike-Zeus missile performed an intercept at 354,000 feet range and 105,000 feet altitude. Preliminary report indicates a target intercept computer miss distance of 197 feet. The second Nike-Zeus missile failed safe approximately five seconds after lift-off.

ATLAS - "OAK TREE"

Missile: SM65E - 64E

Launched: 0926.55.69 PST, 18 December 1962

Countdown History:

Countdown was normal, but a 17:16 minutes hold was made prior to entering the commit sequence, caused by communication breakdown to Kwajalein target area down range. Communication was re-established prior to launch.

Flight Performance:

Missile destructed self after 40.14 seconds of flight.

Aerospace Ground Equipment Performance:

All equipment operated satisfactorily.

Remarks:

Preliminary data indicates all systems functioned normally up to 37.2 seconds when the B-2 pump speed dropped sharply to zero within one-tenth of a second, shutting down the B-2 engine. This was accompanied by a drop in the B-2 chamber pressure. Thrust section ambient temperature remained below 40° F. indicating that no fire existed in the booster section up to that time. The temperature in the B-2 gas generator spiked from nominal of 1400° F. to 1780° F. at 37.6 seconds indicating a possible fuel starved or LOX rich condition. The B-1, Sustainer and Vernier engines were nominal up to 39.8 seconds when they shutdown. The cause for shutdown is undetermined at this time.

Both lift-off cameras were recovered.

All missile debris fell on government land and within the safety corridor.

This missile flew a Nike-Zeus Target Vehicle, K-4.

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ATLAS - "FLY HIGH"

Missile: 160-D (S/N 61-2583)

Launched: 0129:26.4 PST, 22 December 1962

Countdown History:

This was the first Nike-Zeus target booster processed and launched by SAC personnel with technical assistance from the 6595th ATW at 576-A-1. The first attempt resulted in a successful launch after an approximate one hour hold. Thirty minutes of the hold was attributed to the down range weapon system, and the remaining time to the target system. The target hold was due to a lengthy checkout of the decoy package and scientific passenger pod. One anomaly occurred during the terminal count. This was loss of primary source of instrument air. The "T" count continued using the alternate source. Total time of terminal count was 25:16 minutes, of which 2:30 minutes was for a range hold.

Flight Performance:

1. All missile sub-systems performed satisfactorily, however the GERTS station lost rate lock at 293.8 seconds of flight. This enlarged the GERTS computor error box which resulted in AFCO command from the GERTS station prior to normal VECO. Discrete commands follow:

Event	Planned	Actual
BECO	136.0	135.5
SECO	281.7	284.4
VECO	300.9	294.1
R/V Separation	303.9	297.4
Retro-rockets Fire	305.9	299.1

2. MOD III guidance acquired lock-on in the first cube at T+85 seconds.

3. PMR GERTS station acquired in the first cube but lost rate lock-on at 293.8 seconds. This was later re-acquired, track lock was not lost prior to predicted impact.

4. Impact Data: The MOD III guidance IIP was reconstructed after flight and indicated 10.1 NM short and 1.7 NM right. The GERTS IIP was 14 NM short and 2 NM left.

Remarks:

A scientific passenger pod and a MOD II A decoy pod with two midcourse decoys were carried. The decoys were satisfactorily ejected. The Nike-Zeus weapon system did acquire the incoming target and launched two Nike-Zeus missiles. The first Nike-Zeus missile performed an intercept with a miss distance of 200 meters. The second Nike-Zeus missile failed safe shortly after lift-off.

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