

Tab 4

MISSILE	DELTA-THOR
SPONSOR	NASA
CONTRACTOR	Douglas Aircraft Company

First Launch	13 May 60
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Program active as space booster as of 30 June 1965.

ET65-9858

Tab 3

MISSILE

CENTAUR

SPONSOR

NASA

CONTRACTOR

Prime: Convair Division/General Dynamics -  
Airframe

Associate: Pratt and Whitney and Jet  
Propulsion Laboratories -  
Propulsion

First Launch

8 May 1962

Program underway as of 30 June 1965.

ET65-9858

MISSILE	SATURN
SPONSOR	NASA
CONTRACTOR	Prime: Chrysler Corporation - S-1 Booster
	Associate: Rocketdyne NAA - H-1 Engine, Propulsion
First Launch	27 Oct 61

Program underway as of 30 June 1965.

ET65-9858

PROJECT ANNA

Anna 1B

31 Oct 62

Booster: Thor-Able

Sponsor: A Army

N Navy

N NASA

I Air Force

Test # 3723

Pad 17A

Purpose: Placed a Geodetic satellite in earth orbit to make precise optical measurements as an aid to determining the size and shape of the earth. Anna was a 36-inch aluminum sphere girdled by a band of solar cells that gave it a diameter of 48 inches at mid-section. It weighed approximately 350 pounds. It carried a one-million watt blinking strobe light. Each flash was to be photographed from different positions on the earth to determine relative position and compute distance. Anna achieved near circular orbit of about 700 miles altitude.

MT63-13732



RANGER PROGRAM

Ranger V

18 Oct 62

Booster: Atlas 215D/Agena  
Sponsor: NASA

Test # 5050  
Pad 12

Purpose: Provide information on origin, constitution, and surface characteristics of the moon. Obtain data and operating experience to speed progress toward manned lunar flights. Ranger V was a 755 pound gold and chrome plated spacecraft designed to televise close-up pictures of the moon's surface and place an instrumented package on the surface of the moon to transmit data on moon quakes and other structural characteristics of the moon. The solar panels of Ranger V failed to provide electrical power required for its TV camera and fire the guidance rockets that would enable it to land its instrumented package on the moon. Radiation damage was believed to have caused failure. Missed moon by about 300 miles.

MARINER PROGRAM

Mariner I	22 Jul 62	Purpose: To place Mariner I, a 447 pound spacecraft in the vicinity of planet Venus. To gain knowledge of planet Venus and its environment, and to investigate solar phenomena throughout the Earth-Venus interplanetary space. The omission of a hyphen in the guidance tape caused the space vehicle to deviate from planned trajectory resulting in RSO destruct after about T + 29 <sup>3</sup> seconds of flight.
Booster: Atlas 145D/Agena		
Sponsor: NASA		
Test # 2900		
Pad 12		
 Mariner II	 27 Aug 62	 Purpose: To place Mariner II, a 447 pound spacecraft in the vicinity of planet Venus to gather information on its environment. This was accomplished on 14 Dec 62 when Mariner II passed within 20,000 miles of Venus on its way to solar orbit.
Booster: Atlas 179D/Agena		
Sponsor: NASA		
Test # 3731		
Pad 12		

MT63-13732



AIR FORCE SYSTEMS COMMAND  
UNITED STATES AIR FORCE

SUPPLEMENT I FY-61

**INDEX OF MISSILE LAUNCHINGS  
BY MISSILE PROGRAM**

OCT 10 1961

JULY 1960 - JUNE 1961

A proper  
understanding  
of the past provides  
a key to the future.

Marven R. Whipple



PATRICK AIR FORCE BASE, FLA.

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COPY NO. 65

INDEX OF MISSILE LAUNCHINGS

BY MISSILE PROGRAM

SUPPLEMENT I

JULY 1960 - JUNE 1961

ATLANTIC MISSILE RANGE

OCT 10 1961

Marven R. Whipple  
Center Historian

Historical Branch  
Office of Information  
Air Force Missile Test Center  
(Air Force Systems Command)  
Patrick Air Force Base, Florida

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ATLANTIC MISSILE RANGE  
RECORD OF MISSILES LAUNCHED  
July 1960 through June 1961

PROGRAM	FY-61		FY-61 TOTAL	PRIOR YEARS	GRAND TOTAL
MATADOR	15	11	26	260	286
MACE	6	7	13	7	20
SNARK	6		6	91	97
ATLAS	13	10	23	50	73
TITAN	9	8	17	17	34
THOR-AELE	3	2	5	18	23
DELTA-THOR	2	1	3	1	4
REDSTONE	4	7	11	21	32
JUPITER	1	1	2	58	60
JUNO	1	3	4	6	10
PERSHING	4	9	13	5	18
POLARIS	25	24	49	60	109
HOUND DOG GAM 77	7	12	19	17	36
BLUE SCOUT	2	4	6	0	6
MINUTEMAN		2	2	0	2
OTHERS	0	0	0	292	292
TOTAL	98	101	199	903	1102
	2nd Half CY-60	1st Half CY-61			

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MACE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
8	810	No. 20 58-1417	11 Jul 60	Stalled out at 190 mi D/R. RSO destruct ordered. Hardsite launch OK.
9	2516	No. 21 58-1226	21 Sep 60	Hardsite launch. Impacted Sta 9 impact area with radial error of 1.12 NM.
10	2813	No. 22 58-1427	7 Oct 60	Hardsite launch. Missile stalled out during climb about 230 NM D/R and im- pacted .
11	3514	No. 23 59-4976	21 Oct 60	Hardsite launch. Impact in Sta 9 target area with radial error of 0.5 NM.
12	3813	No. 27 59-4980	15 Nov 60	Hardsite launch. Failed to follow second programmed course deviation. Placed on course by command guid- ance then inertially guided to target area. Impact showed radial error of 5.22 NM.
13	2812	No. 8 56-2889	16 Dec 60	Hardsite launch. At end of 1st programmed course devia- tion guidance failure neces- sitated command control during remainder of flight to get terminal dive data.

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MACE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
14	109	TM-76B #26 59-4979	7 Mar 61	Airborne. Telemetry lost at T+3 sec. Miss distance 1 NM right and 0.7 NM long.
15	1264	TM-76B #24 59-4977	16 Mar 61	Flew prescribed 665 NM on inertial guidance. Impact was 1 NM right and 0.25 NM short of target.
16	828	TM-76B #25 59-4978	28 Mar 61	Immediately after clearing launch bay it rolled left, impacted on cape and burned at T+7.5 sec.
17	1350	TM-76B #46 59-4874	28 Apr 61	Flew prescribed 665 NM on inertial guidance. Impact was 1.2 NM long and 2.5 NM right of target.
18	1259	TM-76B #48 59-4876	2 Jun 61	Flew entire 947 NM course on inertial guidance. Impact was 4.5 NM short and 7 NM right of target.
19	1260	TM-76B #51 59-4879	16 Jun 61	Flew entire 947 NM course on inertial guidance. Impact was 2 NM right of target.
20	1808	TM-76B #55 59-4883	21 Jun 61	Completed R&D testing under Category II MACE program. Missile failed to make programmed turn at 460 NM. Error was corrected by test team. Total range was 666 NM and miss distance was 2 NM over and 1.6 NM right of target.

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SNARK LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
92	1017	N-3446 (SM-62A) AF59-1876	8 Jul 60	6th of 11 modified Category II APAC Extension Program. Launched by 702 Strategic Missile Wing. Scheduled for Sta 12 impact. Impact 2250 mi D/R attributed to guidance failure. NORAIR support. Tech backup.
93	1507	N-3448 (SM-62A) AF59-1878	26 Aug 60	SAC launch crew, NORAIR tech support. 7th modified Category II. Impact Sta 12 area. Flight time 8 hrs 33 min. 2.4 mi miss distance.
94	2514	N-3452 (SM-62A) AF59-1882	26 Sep 60	SAC crew launch, NORAIR backup. 8th Category II. Automatic ballistic nose release at Sta 12. Miss distance 1 mi.
95	2802	N-3454 (SM-62A) AF59-1884	14 Oct 60	SAC launch crew backed up by NORAIR. 9th modified Category II Extension missile. Failure in missile electrical system caused flight termination after 7 min of flight.
96	3513	N-3460 (SM-62A) AF59-1890	14 Nov 60	SAC launch crew backed up by NORAIR. 10th modified Category II Extension Program. RSO destruct T+3 min.
97	3512	N-3458 (SM-62A) AF59-1888	5 Dec 60	SAC launch crew backed up by NORAIR. 11th and last modified Category II Extension Program missile. Last SNARK programmed for launch at AMR. Programmed Sta 12. Impact 4,100 mi D/R 300 mi left of course.

END OF PROGRAM

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ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
51	803	60D	2 Jul 60	Test All Inertial Guidance (AIG). 4th to use AIG. Programmed 4306 NM flight. Impact 40 mi short due to engine thrust decay.
52	1505	50D	29 Jul 60	Second MERCURY capsule test, using 1st McDonnell Aircraft Corp capsule. Undisclosed difficulty encountered at T+60 sec.
53	1003	32D	9 Aug 60	Test GE Mod III Guidance System over extended 6350 NM range. Impact within 2 NM of aiming point.
54	1004	66D	12 Aug 60	Evaluate ARMA inertial guidance system. 1st AIG flight to Sta 12 MILS net. Test heat shield on re-entry vehicle. Impact as intended. Re-entry vehicle not recovered due to failure of flotation balloon.
55	2817	76D	16 Sep 60	Test ARMA guidance, combustion, stability, re-entry heat shield performance with emphasis on ablation materials. Impact 3 NM of target in Sta 12 MILS net. Nose cone not recovered.
56	802	79D	19 Sep 60	Test over 7,862 NM (9,000 stat mi) range, with Indian Ocean impact. Evaluate Mod III guidance system. Impact within 2.3 NM of target.
57	2801	4 stage ATLAS- ABLE VA 80D	25 Sep 60	Lunar probe. Interplanetary space probe beyond earth's gravitational field close moon orbit. Low thrust and premature shutdown of 2nd stage prevented velocity

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ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
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JULY - DECEMBER 1960  
(CONT'D)

				gain. 3rd stage accelerated in opposite direction from that desired. Required velocity for lunar exploration not achieved.
58	2508	3E	11 Oct 60	First Series E missile. Test performance of sub-systems, evaluate flight control and ARMA Inertial Guidance System. Nose cone to impact Sta 12 MILS net. Control lost shortly after launch and complete break-up occurred at T+155 sec. Re-entry vehicle impacted 900 mi down range.
59	802	7LD	13 Oct 60	Test ARMA Guidance System, evaluate re-entry vehicle, with emphasis on vibration materials. Sta 12 MILS net impact planned. Carried mice. Recovered 2 hrs after impact within 2 mi of impact point.
60	613	55D	22 Oct 60	Planned 6350 mi flight, using Mark III Mod 2B re-entry vehicle. Impact 3NM of target.
61	3503	83D	15 Nov 60	Test guidance system accuracy. Evaluate AVCO R/V with missile system. Impact Sta 12 within 0.5 mi of aiming point.
62	2800	4E	29 Nov 60	Test sub-systems compatibility. Evaluate ARMA Inertial Guidance. Sta 12 impact planned. Sustainer engine shut down early causing impact only 700 mi down range. Partial success.

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ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u> (CONT'D)				
63	4508	2nd ABLE VB, 3-stage 91D	15 Dec 60	Lunar probe. Close moon orbit planned. Vehicle lost structural integrity at T+67 sec after lift-off.
<u>JANUARY - JUNE 1961</u>				
64	3505	90D	23 Jan 61	Last D series ATLAS scheduled for launch as part of the Development program at AMR. Impact within 2 NM of target.
65	3504	8E	24 Jan 61	Missile destroyed itself at T+160 sec. Impact 1400 NM down range.
66	419	67D	21 Feb 61	3rd series D ATLAS to carry a MERCURY capsule. MA-2 capsule landed in target area, was recovered
67	3803	9E	24 Feb 61	1st successful series E flight in 4 tries. Impact at near maximum range of 6,350 NM.
68	403	13E	13 Mar 61	Fuel control malfunction shortened range from intended 7,863 NM to 1,920 NM.
69	811	16E	24 Mar 61	Low order thrust reduced range from intended 7,863 NM to about 3,800 NM.
70	835	100D	25 Apr 61	Carried MA-3 capsule with intent to orbit and recover. RSO destruct at T+140 sec prevented orbit.
71	404	12E	12 May 61	All primary objectives met.
72	813	18E	26 May 61	All primary objectives met.
73	812	17E	22 Jun 61	Destroyed by internal malfunction at T+95 seconds.

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TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
18	1801	J-2	1 Jul 60	Break in hydraulic control line just after lift-off caused missile to arc to the northwest. RSO destruct ordered at T+11 sec. The debris impacted 2,500 ft. from launch complex.
19	2509	J-4	28 Jul 60	First stage engine shut down at T+142 sec causing impact 90 mi down range.
20	2818	J-7	10 Aug 60	Met test objectives except for data cassette recovery and full vernier operation. Programmed for MILS net at 4,385 mi. Impact 112 mi short of target.
21	2819	J-5	30 Aug 60	Impact in MILS net at 4,385 mi range 1 NM from aiming point. Data cassette not recovered.
22	2820	J-8	28 Sep 60	To test missile system accuracy. Impact was in MILS net at 4,385 NM range. Data cassette recovered by ORV Whiskey just 33 min after impact.
23	1007	G-8	29 Sep 60	Scheduled 8,700 mi flight. 1st stage burning time was 11.75 sec short and 2nd stage was .7 sec short. Missile impacted 5,300 NM along flight path.
24	1503	J-3	7 Oct 60	Impact was in MILS net at 4,385 mi range. Data cassette was recovered.
25	3506	J-6	24 Oct 60	1st operationally configured TITAN scheduled for extended range of 5,335 mi. Impact was within target area and data cassette was recovered.
26	5104	J-9	20 Dec 60	To test guidance accuracy. 2nd stage did not ignite. This was the 1,000th missile launch at AMR.

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TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
27	5105	J-10	20 Jan 61	Second stage failed to ignite. Impact was 377 NM down range.
28	10h	J-11	10 Feb 61	Carried 22 million candle power strobe light blinker for optical tracking. Impact 5,000 NM down range.
29	103	J-13	20 Feb 61	Carried strobe light for tracking. Impact was at 4,385 NM range within 2NM of target.
30	410	J-12	3 Mar 61	Early shut-off of sustainer engine caused impact 730 NM down range.
31	409	J-14	28 Mar 61	Impact was in target area. Data cassette was recovered.
32	821	J-15	31 Mar 61	Programmed for 8,700 NM range. Booster engine shut-down at T+70 sec caused impact 12 NM down range.
33	1361	J-16	23 May 61	Missile system performed as planned. Data cassette was ejected from re-entry vehicle early and sank on impact.
34	1261	M-1	23 Jun 61	Second stage engine shut down after 12 sec of a 155 sec programmed burning time. Impact was 450 NM down range. First of M-1 series.

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THOR-ABLE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
19	2517	THOR- ABLE/STAR 262	18 Aug 60	Purpose to place COURIER 1A, an active communications satellite, in orbit around the earth. Missile break-up during first stage operation prevented orbit.
20	3508	THOR- ABLE/STAR 293	4 Oct 60	Purpose to place COURIER 1B in earth orbit. Orbit achieved with apogee of 657 mi and perigee of 503 mi.
21	4502	THOR- ABLE/STAR 283	30 Nov 60	Purpose to place TRANSIT 3-A in earth orbit. 1st stage engine cutoff 11 sec early failed to provide orbital velocity for payload.
<u>JANUARY - JUNE 1961</u>				
22	408	THOR- ABLE/STAR 313	21 Feb 61	Placed 2 payloads in earth orbit - TRANSIT 3-B and LOFTI. Payloads and 2nd stage of missile separation did not occur, and will limit life and performance of payloads.
23	1255	THOR- ABLE/STAR 315	28 Jun 61	Carried triple satellite payload, TRANSIT 4-A, INJUN, and GREB. 1st satellite powered by nuclear energy.

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REDSTONE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
22	623	2023	9 Aug 60	To determine suitability for field use. RSO destruct action taken at T+112 sec due to impact predictor data. Post flight inspection indicates impact predictor data may have been in error and missile operation normal.
23	2816	2037	5 Oct 60	Test suitability for field use. Range 173.9 mi. Complete telemetry dropout just before impact.
24	4500	MR-1 MERCURY REDSTONE	21 Nov 60	To launch MERCURY capsule. 1 sec after ignition engine cutoff occurred, but not before some lift-off occurred. Booster settled back on launcher. Capsule prepared for re-entry at engine cutoff. Escape tower jettisoned and landed 1700 ft from launcher. Although the booster was not expended, the fact that it lifted off the pad satisfied the criteria established for classifying it as a launch.
25	5111	MR-1A MERCURY REDSTONE MR-3 booster	19 Dec 60	1st successful MERCURY REDSTONE launched from AMR. Capsule recovered at T+33 min after launch by helicopter from USS Valley Forge. Impact was 205 mi down range. Apogee was 116 mi.

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REDSTONE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
JANUARY - JUNE 1961				
26	3802	2038	21 Jan 61	Flew prescribed 173.8 NM range to pre-selected target area. Test field suitability use.
27	3805	MR-2	31 Jan 61	Carried MERCURY capsule MR-2 containing a chimp named HAM. Impact was 100 mi long but recovery effected with no ill effects to primate.
28	5101	2040	8 Mar 61	Field use suitability test.
29	1375	MR-BD	24 Mar 61	Carried dummy MERCURY capsule to prove booster for manned flight. Apogee was 98.8 NM and impact was 267.1 NM down range.
30	108	MR-3	5 May 61	Carried first manned MERCURY capsule MR-3. Boost, re-entry and recovery all normal. Alan B. Shepard, Jr first US man in space.
31	817	2042	17 May 61	Flew prescribed 173.8 NM range in field suitability test.
32	1333	2043	26 Jun 61	Field use suitability test. Flew prescribed course and met test objectives. Final qualifications test of production missile. All testing of the vehicle at AMR satisfactorily completed.

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JUPITER LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
59	3502	217	20 Oct 60	Test tactical launch equipment for field use. 1st JUPITER launch from tactical type emplacement using all tactical handling and launching equipment. Covered prescribed 962.5 NM range within CEP established for the weapon system. Completed live system test (LST) of JUPITER at AMR. Army test firing responsibility completed. Program transferred to Air Force as operational weapon.

JANUARY - JUNE 1961

60	1263	209	22 Apr 61	Launched by Italian Combat Training Crew assigned to NATO. Flew full IREM range of 1514 NM and impacted in target area. Radial error at impact within established CEP for the weapon system.
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PERSHING LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
6	1501	110	26 Jul 60	To evaluate missile stability and control. Impact was in target area and all test objectives were met. Range 30 NM. First test firing to use Transporter-Electro-Launcher, XM 474. Last Group I test.
7	3501	205	28 Sep 60	First Group II series missile tested at AMR. Became erratic during second stage of powered flight requiring RSO destruct at T+68.4 sec, following first stage separation.
8	3801	206	16 Nov 60	Flight covered 145 mi range. All primary objectives accomplished.
9	4507	207	12 Dec 60	Covered planned 145 mi range. All primary objectives accomplished.

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PERSHING LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
10	5102	208	5 Jan 61	Erratic movements caused missile break-up at T+25 sec.
11	101	209	25 Jan 61	Flew prescribed range of 145 NM.
12	102	210	15 Feb 61	Flew prescribed 145 NM range.
13	402	211	2 Mar 61	Covered prescribed range of 145 NM to impact area.
14	816	212	15 Mar 61	8th and last R&D series Group II missile. Impact 145 NM D/R. Launched from Transporter-Electro-Launcher. XM 474 track mounted.
15	1359	308	21 Apr 61	First R&D series Group III missile. Covered prescribed range of 220 NM to impact.
16	1801	310	18 May 61	Erratic behavior caused RSO to order destruct at T+56.6 sec.
17	1802	311	9 Jun 61	Flew prescribed course and accomplished all mission objectives. Missile impact was within preselected target area.
18	2526	312	30 Jun 61	Flew prescribed course and met test objectives.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
61	1520	ALX-40	6 Jul 60	Launched from flat pad. Flight normal until approximately T+90 sec. Malfunction in 2nd stage motor at T+90 sec caused flight termination.
62	1013	ALX-39	7 Jul 60	Launched from USS Observation Island. Missile lost thrust immediately after first stage ignition and fell back into sea. RSO took destruct action just prior to impact.
63	2502	ALX-42	15 Jul 60	Launched from ship-motion simulator. Re-entry body impacted 958 NM into the BOA with an impact accuracy of 0.17 NM short and 0.49 NM right.
64	2501	ALX-41	19 Jul 60	Launched from flat pad. Re-entry vehicle impacted 1032 NM into the BOA and well within the impact dispersion area for an unguided flight.
65	2504	ALX-1	20 Jul 60	First ballistic missile to be launched from a submerged submarine. Demonstrated the capability of the complete POLARIS Weapons System. The USS George Washington was submerged at a keel depth of 91.5 ft approx 25 NM east of Cape Canaveral lighthouse. First stage ignition occurred when missile was approx 20 ft above the surface of the water. Re-entry vehicle impacted 1,000 NM into the BOA with a miss distance of 0.0 NM in range and 1.7 NM left of the aiming point.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
JULY - DECEMBER 1960 (CONT'D)				
66	2792	A1E-2	20 Jul 60	2nd POLARIS successfully launched from submerged USS George Washington. Re-entry vehicle impacted 1,000 NM into the BOA with an accuracy of 0.75 NM long and 1.06 NM left of the aim point.
67	2507	A1E-4	30 Jul 60	Launched successfully from USS George Washington. Re-entry vehicle impacted 997 NM into the BOA with an accuracy of 0.62 NM long and 0.1 NM left of the predicted impact point.
68	2793	A1E-3	1 Aug 60	Launched from USS George Washington. Completed series of four tests to demonstrate the capability of the complete POLARIS Weapons System on board the USS George Washington. Just after first stage ignition, a jetevator failed causing the missile to become unstable at T+25 sec. RSO took destruct action at T+46.2 sec.
69	1012	A1X-37	2 Aug 60	Launched from ship-motion simulator. Missile performance throughout powered flight was normal. Re-entry body impact was out of tolerance because of an excessive azimuth trajectory error induced by a guidance system malfunction. Re-entry body impacted approx 957 NM into the BOA at 20 NM short and 200 NM to the right of planned impact point.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u> (CONT'D)				
70	2513	ALX-44	4 Aug 60	Launched from flat pad. Re-entry body impacted 1,097 NM into the BOA and well within the impact dispersion area for an unguided flight.
71	2804	ALX-47	12 Aug 60	Launched from flat pad. Re-entry body impacted 958.6 NM into the BOA with an impact accuracy of 0.74 NM long and 1.23 NM right. The missile executed a planned 150° launch roll maneuver.
72	2503	ALX-43	18 Aug 60	Launched from flat pad. Re-entry body impacted 1,043 NM into the BOA and well within the impact dispersion area for an unguided flight.
73	2806	ALX-45	2 Sep 60	Launched successfully from flat pad. Re-entry body impacted approx 1,070 NM into the BOA with an impact accuracy well within the dispersion area for an unguided flight.
74	2803	ALX-5	13 Sep 60	Launched from USS Patrick Henry. Although launch was perfect, a malfunction occurred in the ignition system and the missile fell back unignited into the water.
75	2805	ALX-6	15 Sep 60	Successfully launched from USS Patrick Henry. Re-entry body impacted approx 1,000 NM into BOA with an accuracy of 1.05 NM to the right and 0.93 NM long of the predicted impact point.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u> (CONT'D)				
76	3807	ALF-7	22 Sep 60	Launched from USS Patrick Henry. Launch was normal but the missile fell back into the water after the first stage failed to ignite.
77	3808	ALF-8	22 Sep 60	Launched from USS Patrick Henry. Launch normal until missile broached the surface. At this time a malfunction occurred and the missile ignited and fell back into the water.
78	2807	ALX-48	23 Sep 60	Launched successfully from flat pad. This vehicle was the first in the program scheduled for impact in the Grand Turk MILS. Re-entry body impact was 1,180 ft to the left and 4,850 ft beyond the aim point.
79	3509	ALX-49	5 Oct 60	Launched successfully from flat pad. Re-entry vehicle impacted 1,090 A/M into the BOA and well within the impact dispersion area for an unguided flight.
80	3511	ALX-53	10 Oct 60	Launched successfully from flat pad. Re-entry vehicle impacted into the Grand Turk MILS with a miss distance of 0.7 NM long and 0.4 NM to left of aim point.

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POLARIS LAUNCHINGSJuly - December 1960 Cont'd

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
81	1803	ALX-46	7 Nov 60	Launched successfully from flat pad. Re-entry body impacted into BOA (958 NM D/R) with an impact accuracy of 0.9 NM long and 0.1 NM to the right of the aim point.
82	3811	A2X-1	10 Nov 60	Launched successfully from flat pad. This was the first flight test of a new series (A2X) POLARIS test vehicles. Re-entry body impacted 1,415 NM into the BOA and within the impact dispersion area for an unguided flight.
83	3510	ALX-52	17 Nov 60	Launched from flat pad. This was the last of the ALX series of POLARIS test vehicles to be launched from the FEM complexes at Cape Canaveral. Shortly after 2nd stage separation, the 2nd stage motor pressure exceeded design conditions and ruptured the motor bottle causing flight termination.
84	4503	A2X-2	5 Dec 60	Launched successfully from flat pad. 2nd of a new series of POLARIS test vehicles. Re-entry body impacted into BOA approx 1,368 NM down range and within the impact area for an unguided flight.
85	3809	ALX-13	22 Dec 60	Launched successfully from the USS Robert E. Lee. Re-entry vehicle impacted 1,100 NM from launch point with miss distance of 0.1 NM to the left and 1.3 NM short of aim point. At time of launch the Robert E. Lee was submerged to a keel depth of 98 ft. in a position approx 30 miles east of PAFB.

MT 60-2544-1



POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
86	5106	A2X-3	10 Jan 61	Pad launched. Re-entry body impact in BOA at 1,375 NM range.
87	107	A1E-15	11 Jan 61	USS Robert E. Lee launched. Control malfunction required destruct action at T+48 sec.
88	3810	A1E-14	14 Jan 61	USS Robert E. Lee launched. Became erratic at T+40 sec. Destruct at T+79.1 sec.
89	106	A2X-6	6 Feb 61	Pad launched. First stage igniter trouble aborted first stage. 2nd stage ignited at T+2 sec, separated and flew 2,000 ft NW from pad.
90	412	A2X-7	1 Mar 61	USS Observation Island launched. First sea firing of A2X series. First missile launched from development prototype launcher #4 aboard EAG. Impact was 1,390 NM in BOA.
91	413	A2X-8	9 Mar 61	USS Observation Island launched. First fully guided A2X series launched from EAG-154. Impact was within 1.9 NM radial distance of target.
92	815	A2X-10	15 Mar 61	Pad launched. Impact was in target area at range of 1,400 NM.
93	411	A1E-16	23 Mar 61	USS Theodore Roosevelt launched from point 200 NM down range. RSO destruct during 2nd stage flight at T+99.7 sec.
94	818	A1E-17	23 Mar 61	USS Theodore Roosevelt launched from point 200 NM down range. Impact was 5.2 NM from target.

MT 60-2544-1

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u> (CONT'D)				
95	1354	A1E-18	23 Mar 61	USS Theodore Roosevelt launched from point 200 NM down range. RSO destruct at T+51 sec.
96	1800	A1E-19	6 Apr 61	USS Theodore Roosevelt launched. Impact was 1,100 NM down range with radial miss distance of 0.65 NM.
97	1352	A2X-12	11 Apr 61	Pad launched. Second stage failed to ignite.
98	1365	A1E-20	19 Apr 61	USS Robert E. Lee launched. Impact showed radial miss distance of 3.4 NM.
99	1356	A2X-16	1 May 61	Pad launched to 1302 NM range. Impact was .37 NM right and .23 NM beyond target.
100	1364	A1E-22	3 May 61	USS Abraham Lincoln launched. Impact was .006 NM long and .075 NM right of target.
101	1256	A2X-19	8 May 61	Pad launched to Antigua MILS net. Impact was .81 NM long and .92 NM left of target.
102	1257	A1E-26	17 May 61	Launched from submerged USS Abraham Lincoln. Re-entry body did not separate. Impact was 327 NM short and 48 NM left of target.
103	1812	A1E-27	17 May 61	Re-entry body impacted .91 NM long of target. Launched from submerged USS Abraham Lincoln.

MT 60-2544-1

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
JANUARY - JUNE 1961 (CONT'D)				
104	2124	A1E-28	17 May 61	Launched from submerged USS Abraham Lincoln. Second stage tumbled causing loss of re-entry body. Impact was 888 NM short of target.
105	2125	A1E-29	17 May 61	Launched from submerged USS Abraham Lincoln. Re-entry body delivered to target area.
106	2725	A1E-33	17 May 61	Launched from submerged USS Abraham Lincoln. Second stage control failure experienced. Impact was 91.8 NM short of target.
107	4114	A2X-9	25 May 61	Shipboard launched. Unstable action resulted in RSO destruct at T+10 sec.
108	105	A2X-5	12 Jun 61	Re-entry body impacted 1,433 NM down range. All test objectives met.
109	819	A2X-11	26 Jun 61	First fully guided, warhead equipped A2X missile launched from USS Observation Island. Malfunction occurred during second stage flight. Impact was 857 NM short of target.

MT 60-2544-1

## Tab 26

MISSILE	HOUND DOG (GAM-77)
SPONSOR	Air Force
CONTRACTOR	North American Aviation

First R&D launch            23 Apr 59  
(Used B-52 carrier for air launch)

Program currently underway

MT 60-2511-1

BOUND DOG or (GAM-77) LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1960</u>				
18	2520	NAA 024	1 Aug 60	NAA flight. Impact was 2.5 NM over the planned 425 NM range.
19	2515	NAA 026	11 Aug 60	NAA flight. Total flight distance was 620 NM, the longest to date.
20	2823	NAA 027	18 Oct 60	NAA flight. Malfunction of automatic control made manual command control necessary. Total flight distance was 690 NM, the longest to date.
21	4249	SAC 4	25 Oct 60	SAC flight. Low altitude, off-course launch followed by high cruise flight. Launched from B-52. Impact was near target.
22	4414	SAC 8	2 Nov 60	SAC flight. High level launch and cruise and straight-line flight. Range was 600 NM.
23	4520	SAC 9	15 Nov 60	SAC flight. RSO destruct 22 min after launch.
24	3516	NAA 031	21 Dec 60	NAA flight. All systems functioned normally. Radial error at impact was 0.5 NM.

MT 60-2544-1

HOUND DOG or (GAM-77) LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
25	822	NAA 030	9 Feb 61	Flew 596 NM range. Radial error at impact 1.2 NM.
26	726	SAC #11	10 Feb 61	B-52 launched. Flew 603 NM. Radial error at impact 1.0 NM.
27	830	SAC #12	28 Feb 61	Propulsion malfunction prevented climb to cruise altitude. RSO destruct after 175 mi flight.
28	823	NAA 032	10 Mar 61	Flew 600 NM range. Radial error at impact 0.7 NM.
29	778	SAC #5	24 Mar 61	Flew programmed 45 degree dog-leg turn to target. Impact 9 NM long.
30	832	NAA 033	5 Apr 61	Flew 596 NM range. Radial error at impact 0.1 NM.
31	825	NAA 034	12 Apr 61	Did not climb to cruise altitude. Terminal dive ordered at 190 NM.
32	824	NAA 035	25 Apr 61	Flew 596 NM range. Radial error at impact 0.1 NM.
33	1357	SAC #13	27 Apr 61	All functions normal. Impact was in target area.
34	1358	SAC #14	27 Apr 61	Broke up shortly after launch. Impacted near launch point.
35	401	NAA 028	19 May 61	Became unstable during terminal dive. Range was 600 NM with radial error of 3.6 NM.
36	2950	NAA 036	22 May 61	Programmed 90 degree dog-leg turn executed. Impact 2.2 NM long for total range of 512 NM.

MT 60-2514-1

MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1961</u>				
1	5103	401	1 Feb 61	First launch under MINUTEMAN program at AMR. First time all stages of multi-stage weapon system tested on first launch. Impact 4,600 NM down range.
2	406	402	19 May 61	Nozzle malfunction during second stage caused erratic behavior that required destruct action.

MT 60-2544-1



EXPLORER PROGRAM

EXPLORER I	31 Jan 58	First U.S. earth satellite placed in orbit. Cylinder 80" long, 6" diameter, weight 30.8 lbs. Expected life, 3 to 5 years. Apogee 1,155 mi, perigee 217 mi.
Booster: JUPITER-C #27		
EXPLORER II	5 Mar 58	Failed to achieve orbit. Size and weight same as EXPLORER I.
Booster: JUPITER-C #26		
EXPLORER III	26 Mar 58	Placed in earth orbit. Size and weight same as EXPLORER I. Re-entered earth's atmosphere 27-29 Jun 58 after about 1,250 revolutions. Apogee 1,741 mi, perigee 117 mi.
Booster: JUPITER-C #24		
EXPLORER IV	26 Jul 58	38.64 lb earth satellite to study cosmic ray intensity. Placed in earth orbit. Re-entered earth's atmosphere 23 Oct 59 after about 6,400 revolutions. Apogee 1,388 mi, perigee 157 mi.
Booster: JUPITER-C #44		
EXPLORER V	24 Aug 58	Failed to achieve orbit. 2nd and 3rd stages fired at incorrect angle for orbital flight. Payload weight 38.4 lbs (25.8 lb satellite and 12.6 lb 4th stage)
Booster: JUPITER-C #47		
EXPLORER (Unnumbered)	16 Jul 59	Purpose to place satellite in orbit to measure earth's radiation balance. Payload weighed 91.5 lbs, was 76" high and 8.75" in diameter. RSO destruct of booster at T+5.5 sec prevented orbit.
Booster: JUNO II #16		
Sponsor: NASA		
EXPLORER VI	7 Aug 59	Paddlewheel satellite placed in earth orbit. Life expectancy over 1 year. Purpose to study environment encountered. Apogee 26,357 mi, perigee 156 mi, weight 142 lb.
Booster: #134 THOR-ABLE 3		

MT 60-2544-1



EXPLORER PROGRAM.

<p>EXPLORER VII 13 Oct 59  Booster: JUNO II #19A</p>	<p>Placed in orbit a 91.5 lb earth satellite with a life expectancy of 20 years. Apogee 673 mi, perigee 344 mi. Purpose to study radiation.</p>
<p>EXPLORER (Unnumbered) 23 Mar 60  Booster: JUNO II #19C</p>	<p>Attempt to place radiation measurement package in earth orbit to study Van Allen radiation belt. Payload weight 35.3 lbs (22.8 lb instrument pack and 12.5 lb 4th stage). 4th stage of vehicle did not ignite. Orbital velocity not achieved.</p>
<p>EXPLORER VIII 3 Nov 60  Booster: JUNO II #19D  Sponsor: NASA</p>	<p>Placed 90 lb satellite in earth orbit to study radiation. Apogee 1422.6 statute mi, perigee 258.4 statute mi. Orbital period 112.75 min. Life expectancy 10 years. Payload weight 90.14 lbs.</p>
<p>EXPLORER IX</p>	<p>Was launched from Wallops Island, Va., consequently, it is not included in this series.</p>
<p>EXPLORER (Unnumbered) 24 Feb 61  Booster: JUNO II #19F  Sponsor: NASA</p>	<p>Attempted placement of 74 lb payload in earth orbit to study shape of ionosphere by analysis of transmitted signals. Payload was 30" diameter, 24" high formed by joining two aluminum truncated cones at their bases. Failure of third and fourth stage boosters to ignite prevented orbit of payload. Test accomplished later as EXPLORER XI.</p>
<p>EXPLORER X 25 Mar 61  Booster: DELTA-THOR #4  Sponsor: NASA</p>	<p>Satellite payload weighed 79 lbs and was 52" high. It consisted of a 13" sphere atop a supporting tube joined to the flat side of a 19" cylinder. Purpose to gather data on earth's magnetic fields. Achieved elliptical orbit with perigee of 100 mi and apogee of 145,000 mi. Estimated lifetime of a few weeks.</p>

MT 60-2544-1

EXPLORER PROGRAM

## EXPLORER XI

27 Apr 61

Booster: JUNO II #19E

Sponsor: NASA

Earth satellite to study gamma rays from cosmic sources and map their distribution in the sky. Payload weighed 82 lbs. Configuration resembled old-time street lamp - 12" diameter, 23.5" long octagonal box mounted on 6" diameter column that was 20.5" long. The 44" long 4th stage booster remained attached to satellite. Elliptical orbit had apogee of 1113.2 mi and perigee of 304 mi. Estimated lifetime, 1 to 3 years.

## EXPLORER (Unnumbered) 24 May 61

Booster: JUNO II #19G

Sponsor: NASA

Purpose was to place a 75 lb earth satellite in orbit known as "Ionospheric Beacon (S-45)." Electrical power failure in missile prevented orbit of payload. This was the last of the JUNO II boosters.

T 60-2544-1

# ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
74	1251	22E	6 Jul 61	First series E Atlas to fly the 9,000 mile range to the Indian Ocean. It set new distance record of 9,050 statute miles.
75	1360	21E	31 Jul 61	Met all primary test objectives.
76	1805	2F	8 Aug 61	First series F flight at AMR. Met all test objectives except data cassette recovery. Impact 4,388 NM down range.
77	5050 (form- erly 2530)	Agena B 111D	23 Aug 61	Launched Ranger I. Second burn of Agena B did not occur. Payload achieved low earth orbit instead of deep space orbit programmed.
78	1803	26E	8 Sep 61	Thrust decay in vernier engine occurred at T+137 seconds.
79	1254	MA-4 88-D	13 Sep 61	Unmanned Mercury capsule, MA-4 launched from Complex 14. Successful single orbit achieved and recovery made near planned impact area.
80	1252	25E	2 Oct 61	Impact 4,388 NM down range in target area. Carried pod containing Centaur guidance system.
81	1804	30E	5 Oct 61	Data cassette was recovered in Indian Ocean, 7,539 NM down range. Longest recorded recovery of data cassette.
82	3203	32E	10 Nov 61	Thrust decay in E2 engine caused RSO destruct at T+35.4 seconds. Squirrel monkey named Goliath died in the flames.

MT 62-13721

# ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u> (CONT'D)				
83	4507	Agena B 117D	18 Nov 61	)Launched Ranger II. Instability of Agena B occurred shortly after separation as result of roll gyro malfunction. Caused improper trajectory for Ranger II. Short lived low earth orbit achieved.
84	3751	4F	22 Nov 61	Missile impacted as planned in the Sta 12 MILS net. 2nd series F missile. Carried 2 pods for AEC to test SNAP system.
85	1810	MA-5 93D	29 Nov 61	MA-5 capsule placed in orbit for two passes piloted by EMOS the Chimp. Two orbits of a planned 3-orbit flight were accomplished.
86	5462	35E	1 Dec 61	Impact as planned in Ascension Island target area.
87	3752	5F	12 Dec 61	Guidance system failure caused impact 600 miles short of target.
88	5464	36E	19 Dec 61	First missile flown to Mid-Ocean Target Array located 6,000 NM down range. Impact in target area. Attempts to recover a pod containing 4-lb Rhesus monkey failed.
89	4501	6F	20 Dec 61	Malfunction in sustainer pumps caused loss of pressure and missile tumbled out of control at T+282 seconds.

MT 62-13721

ATLAS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u>				
90	125	Agena B 121D	26 Jan 62	Carried Ranger III. Guidance malfunction caused RA-3 to miss moon by 24,856 SM and fall into orbit around the sun.
91	101	40E	13 Feb 62	6,000 NM flight. Data cassette not recovered. Completed R&D Program.
92	5460	MA-6 109D	20 Feb 62	MA-6. First manned orbital flight carried Lt Colonel John H. Glenn, Jr on three orbit passes around earth in Friendship 7 from Complex 14.
93	71	11F	9 Apr 62	Explosion in thrust section at T+1 second followed by explosion in propellant tanks destroyed missile.
94	821	Agena B 133D	23 Apr 62	Carried Ranger IV. Impacted on moon on 26 Apr 62.
95	65	MA-7 107D	24 May 62	Second manned orbital flight. Lt Commander Scott Carpenter made 3 orbital passes in Aurora 7. Launched from Complex 14.

MT 62-13721

6

BLUE SCOUT LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
7	3754	O-1	17 Aug 61	To boost 27-lb HETS payload above 56,000 NM altitude. All telemetry data lost at T+131.6 seconds. Primary objective not achieved.
8	3753	D-8	1 Nov 61	To orbit 150 lb Mercury payload to test global tracking net. Erratic behavior caused automatic destruct of first two stages at T+27 seconds. RSO destruct of 3rd stage occurred at T+43 seconds. Guidance failure caused erratic behavior. Payload not orbited.
<u>JANUARY - JUNE 1962</u>				
9	105	D-7	12 Apr 62	2nd stage failed to ignite. Missile coasted to impact. No recovery attempted.

MT 62-13721



HOUND DOG or (GAM-77) LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
37	834	038	7 Jul 61	Guidance failed at T+3 minutes. Missile destroyed by dive-in feature. Impact 210 NM down range.
38	3803	037	1 Sep 61	Fuel starvation lowered engine RPM below requirement for level flight. Impact 95 NM down range.
39	1807	020	15 Sep 61	Fuel exhausted 8 NM short of target and missile started its dive-in.
40	6299	029	3 Oct 61	Normal operation and impact with radial error of 0.8 NM.
41	3005	SAC LV-15	11 Oct 61	Systems functioned normally. Range 575 NM, radial error 0.6 NM.
42	831	SAC LV-6	11 Oct 61	Off-course launch for dog-leg flight. Radial error at impact 0.8 NM.
43	6451	044	1 Nov 61	Flight executed as planned. Radial error at impact 0.4 NM.
44	8639	2130	21 Dec 61	All objectives accomplished. Radial error about 1.1 NM.
<u>JANUARY - JUNE 1962</u>				
45	58	CEL-2	9 Jan 62	First SAC combat evaluation launch. Range 607 NM. Impact near Sta 7. Radial error 3.3 NM.
46	435	2131	23 Jan 62	Normal flight with impact in selected target area.

MT 62-13721



HOUND DOG or (GAM-77) LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u> (CONT'D)				
47	60	CEL-4	29 Jan 62	Flight control malfunction at release. Required RSO destruct after 7 minutes of flight.
48	61	CEL-5	30 Jan 62	First launch from B-52H aircraft. Range over 600 NM, radial error at impact less than 0.1 NM.
49	63	CEL-7	6 Feb 62	Flight covered dog-leg path to impact at Sta 7. Range 617 NM, radial error 1.2 NM.
50	57	CEL-1	12 Feb 62	Automatic destruct after about 9 minutes of flight. Impact off west shore of Great Abaco Island. Parts recovered.
51	74	CEL-8	14 May 62	Guidance computer failure prevented dive signal. Missile overflew target resulting in RSO destruct.
52	75	CEL-9	15 May 62	Missile impacted north of Sta 7 at range of 607 NM with radial error of 2.25 NM.
53	809	CEL-12	21 May 62	Impact was north of Sta 7 at 607 NM range with radial error of 1.5 NM.
54	1907	CEL-16	18 Jun 62	SAC B-52 launch at 42,000 ft altitude. Missile climbed to 58,000 ft and flew dog-leg course to impact. Miss distance 2.5 NM. 617 NM range.
55	1909	CEL-18	26 Jun 62	SAC B-52 launch. Flew straight path to impact north of Sta 7. 607 NM range; miss distance 0.33 NM.

MT 62-13721

JUPITER LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
61	3213	218	4 Aug 61	Combat Training Launch by NATO Italian launch crew to test operational type warhead. Objectives achieved. Impact 1.24 NM long and .13 NM left of target.
62	6201	CTL-115	6 Dec 61	CTL by NATO Italian launch crew. Missile performance satisfactory and followed prescribed flight path. Impact .62 NM long and .39 NM right of target.
<u>JANUARY - JUNE 1962</u>				
63	811	114	18 Apr 62	CTL by NATO Turkish launch crew. Incorrect setting of engine fuel control valve caused fuel depletion prior to guidance cut-off. Nose cone impacted 232.9 NM short of target.

MT 62-13721

MACE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
21	1814	60-5397	18 Jul 61	Elast-off shorted power lines disabling range safety radars and command transmitters causing fail-safe destruct at T+31 sec.
22	2528	60-5399	4 Aug 61	Impact 4.24 NM short of aiming point.
23	2529	60-5398	1 Sep 61	Launch and flight normal. Impact in target area. Miss distance 1 NM long and 5 NM left of target.
24	3206	60-5400	22 Sep 61	Failed to maintain altitude, and warhead detonation did not occur. Impact 4.5 NM from target.
25	3208	60-5396	14 Nov 61	Missile performance satisfactory. Target miss distance about 1.3 NM.
26	6228	59-4887	5 Dec 61	Launch and flight phases normal. Impact in planned target area.
<u>JANUARY - JUNE 1962</u>				
27	5959	60-5401	12 Jan 62	All phases of flight satisfactory. Range 665 NM.
28	408	60-5405	12 Jan 62	Telemetry signals lost at T+35 minutes. RSO destruct at T+65 minutes.
29	130	59-4885	24 Jan 62	Missile satisfactorily executed vertical maneuvers during low level flight. Impact 1 NM left of target.
30	107	59-2468	26 Jan 62	Chase plane aborted the mission. Fail-safe supposedly destroyed the missile. RSO sent destruct signal as precautionary measure.

MT 62-13721

MACE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u> (CONT'D)				
31	106	60-5403	1 Feb 62	1130 NM flight ended in wings-off, powered, ballistic dive to target. Miss distance 1.5 NM left.
32	131	60-5406	8 Feb 62	Planned maneuvers executed on 665 NM range flight. Impact 1.2 NM short of target.
33	109	59-4886	15 Feb 62	Longest Mace flight to date of 1194 NM. Impact about 4.3 NM short of target.
34	108	59-4889	21 Feb 62	Altitude controlled high-low mission to target 665 NM down range. Impact 2.3 NM right of target.
35	110	58-1425	1 Mar 62	Airspeed/altitude controlled flight to target 665 NM down range. Impact 2 NM short and 2.4 NM right of target.
36	111	59-4888	2 Mar 62	Hard site launch. Guidance error injected at launch caused impact 22.9 NM short of target located 1194 NM down range. Final launch in Category III Mace test program.

MT 62-13721

MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
3	2531	403	27 Jul 61	Met 95% of the test objectives. Propulsion pressure in third stage dropped 10 seconds early at T+167.7; acceleration continued until T+172 seconds. Impact was 425 NM short of target.
4	3205	404	30 Aug 61	Guidance failure before missile cleared silo caused missile to fail and destroy itself in launch area.
5	3755	405	17 Nov 61	Satisfactory performance of all three stages. Impact was in selected target area.
6	4503	406	18 Dec 61	All three stages performed satisfactorily. Impact in planned target area.
<u>JANUARY - JUNE 1962</u>				
7	117	407	5 Jan 62	All stages performed as planned. Silo launch. Impact in target area.
8	114	408	25 Jan 62	Performance and impact as planned. Silo launch.
9	112	410	15 Feb 62	Performance satisfactory. Impact as planned. 3,900 statute mile range. Silo launch.
10	115	409	8 Mar 62	Performance satisfactory. Impact in target area. 3,000 NM range. Silo launch.

MT 62-13721

MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u> (CONT'D)				
11	113	411	22 Mar 62	Performance satisfactory. Impact as planned. Silo launch.
12	116	412	24 Apr 62	Silo launched. First stage engine failure at T+20 seconds caused self destruct. Landed 10 NM from Cape.
13	812	413	11 May 62	Silo launched from 32B. Met 95% of assigned test objectives.
14	813	414	18 May 62	Silo launched. Met 90% of assigned test objectives.
15	1332	415	8 Jun 62	Launched from Silo 32B. Performance as planned with impact in target area.
16	1911	416	29 Jun 62	Silo launched from 32B. Flight and impact as planned.

MT 62-13721



PERSHING LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
19	2527	313	19 Jul 61	Launched from Transporter-Erector-Launcher. All test objectives met. Impact was within allowable limits.
20	3201	315	10 Aug 61	Launched from Transporter-Erector-Launcher. Automatic destruct at T+55 sec. caused by violent roll, pitch, and yaw maneuvers. RSO destruct ordered at T+76 sec as precautionary measure.
21	3500	316	22 Aug 61	Primary and secondary missions accomplished.
22	3756	318	13 Sep 61	All primary objectives met. Impact was within target area.
23	3757	319	26 Sep 61	Impact was in target area. All test objectives met.
24	4505	320	10 Oct 61	Primary test objectives met. Impact was within selected target area.
25	5457	322	2 Nov 61	All assigned missions accomplished.
26	5458	323	15 Nov 61	All test missions accomplished.
27	5459	324	30 Nov 61	All test objectives met.
28	8600	327	28 Dec 61	Flight normal. Impact within designated area. All test objectives met.

MT 62-13721

PERSHING LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u>				
29	54	334	16 Jan 62	All test objectives met. Flight time 440.26 seconds. Range of flight 385 NM.
30	53	332	24 Jan 62	Flight normal. Flight time 370.24 seconds. Range 220 NM.
31	79	335	19 Feb 62	Met test objectives. Flew 300 NM.
32	127	328	15 Mar 62	Performance satisfactory. Met test objectives.
33	128	326	4 Apr 62	Performance normal. Met all test objectives.
34	1335	337	24 Apr 62	RSO destruct at T+27.7 seconds because of yaw to the right of planned course.
35	52	329	27 Apr 62	System performance normal. All test objectives accomplished. This was a short range flight to test device for quicker separation of warhead.
36	129	330	9 May 62	Violent roll, pitch and yaw maneuvers resulted in command destruct at T+107.67 seconds during second stage of flight.
37	1337	339	4 Jun 62	All test objectives accomplished. Launch conducted under simulated conditions of near hurricane force winds.
38	1913	342	14 Jun 62	Second stage exploded about two seconds after ignition and plunged into ocean 75 NM down range at T+40 seconds of flight.

MT 62-13721

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
110	1813	A2X-20	13 Jul 61	Short range fully guided flight met all test objectives. Impact was .21 NM long and .076 NM left of target.
111	2532	A2X-21	2 Aug 61	Pad launched on fully guided flight. Miss distance .61 NM short and .17 NM right of target.
112	4911	A1E-42	12 Aug 61	Launched from submarine Abraham Lincoln. Control malfunction caused RSO destruct at T+97 sec.
113	3881	A1E-43	12 Aug 61	Launched from submarine Abraham Lincoln. Control malfunction required RSO destruct at T+54 sec.
114	3489	A1E-34	12 Aug 61	Launched from submarine Abraham Lincoln. Performed satisfactorily; impact .82 NM long and .79 NM left.
115	3490	A1E-35	12 Aug 61	Launched from submarine Abraham Lincoln. Miss distance .48 NM long and .30 NM left of target.
116	3491	A1E-36	12 Aug 61	Launched from submarine Abraham Lincoln. Miss distance .57 NM long and .15 NM left of target.
117	3492	A1E-37	12 Aug 61	Launched from submarine Abraham Lincoln. Miss distance .35 NM long and .15 NM left of target.
118	2533	A2X-22	18 Aug 61	Launched from Observation Island. Control malfunction required RSO destruct at T+35 seconds.
119	3077 (Initially assigned test no. 5451)	ALX-50	29 Sep 61	Pad launched, fully guided flight. Performance satisfactory. First Polaris to demonstrate pre-prototype A3 second stage thrust

MT 62-13721

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u> (CONT'D)				
				control system using fluid injection to deflect gas flow.
120	5900	A2X-13	4 Oct 61	Launched from Observation Island.
121	3760	A1E-38	16 Oct 61	Sub launched from Ethan Allen. Range 1098.9 NM. Miss distance .49 NM long and .90 NM left.
122	3762	A2X-4 (A2EX-1)	23 Oct 61	Sub launched from Ethan Allen.
123	3761	A1E-39	3 Nov 61	Sub launched from Ethan Allen at target 1100 NM down range. Miss distance 25 NM short and 2.46 NM left of target.
124	4509	A1E-40	3 Nov 61	Sub launched from Ethan Allen at target 1100 NM down range. Impact was .05 NM long and .89 NM left.
125	4510	A1E-41	3 Nov 61	Sub launched from Ethan Allen at target 1100 NM down range. Impact .22 NM short and .46 NM left of aim point.
126	839	A2X-15 (A2EX-2)	8 Nov 61	Sub launched from Ethan Allen. Impact 11400 NM down range with miss distance of .12 NM long and .16 NM left of target.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u> (CONT'D)				
127	4511	A2X-14 (A2G-1)	9 Nov 61	First Polaris to carry the new MK-2 guidance system. Pad launched. Went out of control after second stage separation. RSO destruct at T+75.48 seconds.
128	3076	A2X-23	1 Dec 61	Pad launched. Unguided flight. Impact 1480 NM down range.
129	3763	ALX-51	5 Dec 61	Pad launched on short range flight of 750 NM to insure control of second stage flight by fluid injection control system. Met all test objectives.
<u>JANUARY - JUNE 1962</u>				
130	121	A2X-17 (A2G-2)	23 Jan 62	Carried MK-2 guidance. Pad launched on long range fully guided flight. 2nd stage malfunction caused premature flight termination.
131	122	A2X-27 (A2G-5)	1 Mar 62	Carried MK-2 guidance. Pad launched on long range fully guided flight. Impact 1713 NM down range. 1.93 NM long and 1.48 NM right of target.
132	70	A2X-28 (A2M-3)	30 Mar 62	Pad launched on unguided flight. Flight control malfunction caused RSO destruct at T+18.1 seconds.
133	68	A2PE-1	25 Apr 62	Sub launched by USS Sam Houston while submerged at depth of 98 ft. Miss distance .54 NM long and .48 NM left at 1260 NM range.
134	819	A2X-18 (A2MG-1)	3 May 62	Carried MK-2 guidance. Re-entry body impacted 1826 NM down range in BOA. Miss distance .11 NM long and 2.37 NM right of target.

MT 62-13721

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u> (CONT'D)				
135	3000	A2PE-3	9 May 62	Sub launched from USS Sam Houston at depth of 90.5 ft. Loss of control caused command destruct at T+82.9 seconds.
136	3001	A2PE-4	11 May 62	Sub launched from USS Sam Houston at depth of 88.5 ft. Impact was .56 NM long and 1.81 NM left of target.
137	1338	A2PE-5	23 May 62	Sub launched from USS Thomas Edison at depth of 92 ft. Impact was 1.14 NM long and .50 NM left of target.
138	1339	A2PE-6	23 May 62	Sub launched from USS Thomas Edison at depth of 92 ft. Impact was .72 NM long and 1.89 NM left of target.
139	1915	A2PE-7	2 Jun 62	Sub launched from USS Thomas Edison from keel depth of 92 ft. Impact was .37 NM long and .57 NM left of target.
140	1916	A2PE-8	2 Jun 62	Sub launched from USS Thomas Edison from keel depth of 94.8 ft. Impact was .78 NM long and .05 right of target.
141	1340	A2X-30 (A2MG-2)	4 Jun 62	Flight control malfunction during second stage caused deviation from flight path. RSO destruct of 2nd stage at T+90 seconds.
142	1917	A2X-29 (A2M-4/G)	29 Jun 62	Carried MK-2 guidance. Pad launched.. Impact was 1874 NM down range, .03 NM short and .25 NM right of target.

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SKYBOLT LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1962</u>				
1	118	20025	19 Apr 62	First launch at AMR. Air launched from B-52 carrier aircraft at 40,000 ft altitude. Release, first stage ignition and second stage separation OK. Second stage did not ignite.
2	815	20026	29 Jun 62	Drop successful but ignition failed to occur. Missile fell ballistic into ocean near launch point.

MT 62-13721

THOR-ABLE LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
24	3210	305 Able Star	15 Nov 61	Transit 4-B placed in orbit with apogee of 582 NM, perigee of 528 NM. Missile performance was normal.
<u>JANUARY - JUNE 1962</u>				
25	126	311 Able Star	24 Jan 62	Carried Composite I satellite consisting of 5 satellite packages. Rupture in second stage engine bell caused it to tumble. Both missile stages and payload impacted in same general area.
26	78	314 Able Star	10 May 62	Attempt to orbit satellite Anna 1A failed. Second stage failed to ignite. Both stages and payload impacted in same general area. Failure of blast band microswitches to release prevented start signal from being sent to second stage at separation time.

MT 62-13721

TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u>				
35	1815	J-18	20 Jul 61	Flight normal; impact in selected area. Data cassette carried bio-pack of non-pathological tissues. Cassette was recovered.
36	3211	M-2	25 Jul 61	Performance satisfactory with impact in target area. Lot M missiles similar to J missiles but carry inertial guidance instead of radio guidance.
37	2534	J-19	3 Aug 61	Performance satisfactory. Impact was in target area. No data cassette carried.
38	1262	J-17	6 Sep 61	Performance as planned. Impact within target area.
39	3212	M-3	7 Sep 61	Performance as planned. Impact near designated target area.
40	3765	J-20	28 Sep 61	Normal flight with impact in target area.
41	3764	M-4	6 Oct 61	All systems performed within limits except guidance. Impact was 80 NM short of target.
42	5454	J-21	24 Oct 61	Lift-off timed to coincide with pass of Midas satellite. Performance normal except that data cassette did not eject. Impact 80 NM short as result of guidance error.
43	4502	J-22	21 Nov 61	First Titan launch by all Air Force crew. Performance normal. Impact in target area.

MT 62-13721

TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1961</u> (CONT'D)				
44	4512	M-5	29 Nov 61	Performance as planned. Impact in target area.
45	6203	J-23	13 Dec 61	Second all military launch by 6555th Aerospace Test Wing. Performance as planned. Impact in target area. Re-entry vehicle was a 600 lb graphite cone designated as Nike-Zeus Target Vehicle.
46	5455	M-6	15 Dec 61	Second stage did not ignite. Impact was 420 NM down range in broad ocean area.
<u>JANUARY - JUNE 1962</u>				
47	119	M-7	29 Jan 62	Lift-off and flight were normal. Re-entry vehicle impact was in target area.
48	120	N-2	16 Mar 62	First Titan II launch. Met all test objectives. Impact was in target area.
49	64	N-1	7 Jun 62	Launch successful. Second stage thrust below normal. RSO ordered fuel cut-off because of loss of track. Impact 1100 NM down range.

MT 62-13721

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962</u>				
27	3723	319 Able-Star	31 Oct 62	Booster Thor-Able/Star carrying 350 pound satellite launched from pad 17A. Launch accomplished without incident. Mission objectives were to place satellite ANNA in earth orbit. Near circular orbit of payload was successfully achieved.

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SKYBOLT LAUNCHINGS

<u>TOTAL TO DATE</u>	<u>TEST NUMBER</u>	<u>MISSILE NUMBER</u>	<u>DATE LAUNCHED</u>	<u>REMARKS</u>
<u>JULY - DECEMBER 1962</u>				
3	1912	20027	13 Sep 62	Released from B-52 aircraft at 40,000 ft altitude. First stage failed to ignite. After first stage separation, second stage ignited but missile was erratic. RSO destruct at T + 58 seconds.
4	2877	20028	25 Sep 62	Released from B-52 aircraft at 40,000 ft altitude and Mach 0.8. Flight normal until 2 seconds after second stage ignition when premature thrust reversal occurred. Impact was 173 NM downrange in BOA.
5	5035	20031	28 Nov 62	First guided launch of Skybolt missile to use celestial navigation for inflight guidance. Missile tumbled end over end at T + 4 seconds. Impact in BOA.
6	6324	20032	22 Dec 62	First successful launch of the program, also the last launch. Program was cancelled. All test objectives were met.

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TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962</u>				
50	2080	N-6	11 Jul 62	Third Titan II launched at AMR. All systems operated as planned. Impact was within target area in Station 12 MILS net. Pad 15.
51	4604	N-4	25 Jul 62	Fourth Titan II launch. First stage systems operated successfully. Second stage fuel system malfunctioned about 60 seconds after staging which reduced thrust. Impact was only 1600 NM downrange. Launch pad 16.
52	1500	N-5	12 Sep 62	Titan II launch from pad 15. First Titan II to carry a decoy. First and second stage operations satisfactory. Impact was in Station 12 MILS net.
53	3724	N-9	12 Oct 62	Titan II launch from pad 16. All test objectives met. Impact in Station 12 MILS net.
54	4232	N-12	26 Oct 62	Titan II launch from pad 15. Carried radiation study payload. Met all test objectives. Impact in Station 12 MILS net.
55	4231	N-11	6 Dec 62	Titan II launch from pad 16. Excessive airframe vibration caused failure in various engine parts that reduced burning time. Sustainer engine shutdown 69 seconds early. Velocity too low for re-entry vehicle separation. Impact was 703 NM downrange.
56	5591	N-13	19 Dec 62	Titan II launch from pad 15. First Titan II launched with operational flight program using operational autopilot. Flight most satisfying to date, and lowest vibration level. Impact was close to target area.

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TITAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963</u>				
57	5592	N-15	10 Jan 63	First night launch of a Titan II. Failure of a sustainer engine prevented accomplishment of test objectives. Impact was 525 NM downrange.
58	106	N-16	6 Feb 63	First launch of Titan II by all Air Force crew. Missile was programmed for impact in BOA at range of 5875 NM. Depletion of sustainer oxidizer caused impact 71 NM short of target.
59	123	N-18	21 Mar 63	Blue Suit launch of Titan II from pad 15. Programmed for impact in BOA at 5800 NM. Operation normal. Impact 4.38 NM short and 2.5 NM right of target.
60	353	N-21	19 Apr 63	Programmed for impact in Ascension splash net. Flight normal to T + 250 seconds when second stage sustainer engine shut down causing impact 1100 NM downrange.
61	352	N-14	9 May 63	Programmed for impact in BOA at 5001 NM range northeast of St. Helena Island. Early second stage exhaustion caused impact 550 NM short of target.
62	107	N-17	24 May 63	All systems performed as planned. Impact was within 1 NM of target 5876 NM downrange.
63	124	N-20	29 May 63	First stage malfunction caused premature separation which activated destruct system at T + 50 seconds after lift-off. Second stage destroyed by RSO as precautionary measure.

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MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962 (Cont'd)</u>				
25	5031	426	20 Dec 62	First Minuteman launch with missile offset from silo center. Emergence was successful. Premature second stage engine failure at T + 50 seconds tumbled guidance control platform which shortened range.
<u>JANUARY - JUNE 1963</u>				
26	5033	423A	7 Jan 63	Launched from Silo 31B. Premature loss of thrust by first and third stages caused impact 1990 NM short of target and 40 NM left of intended course. Only 32% of test objectives were met.
27	116	419	23 Jan 63	Launched from Silo 32B. Impact was in target area. Re-entry vehicle did not electrically disconnect from third stage motor. Met 90% of test objectives.
28	143	421B	20 Feb 63	Launched from Silo 32B to range of 3132 NM. Last-planned launch of Wing I configured missile. Impact was 0.32 NM short and 0.41 NM right of target. Met 98% of test objectives.
29	118	425	18 Mar 63	Launched from Silo 31B. Flight normal until 10 seconds after third stage ignition. Engine failure was followed by self destruct. RSO destruct taken as precautionary measure at T + 2.5 minutes. 71% of test objectives met. First test of Wing II cylindrical skirt configuration.

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# MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962</u>				
17	2519	417	12 Jul 62	Silo launched from 31B. Flight was normal until T + 47 seconds. Missile destroyed itself when it exploded at T + 50 seconds.
18	2888	418	9 Aug 62	Silo launched from Complex 32. Guidance problems appeared at T + 12 seconds and violent maneuvers began at T + 24 seconds. Destroyed itself shortly after launch.
19	3722	421	18 Sep 62	Launched from Silo 31B. Landed in planned impact area. Met 95% of test objectives.
20	3721	420	19 Sep 62	Launched from Silo 31B. Impact occurred in target area. Met 95% of test objectives.
21.	4229	422	17 Oct 62	Launched from Silo 31B. Guidance and control computer failed. Missile veered toward mainland causing RSO destruct at T + 8 seconds. Fire and debris fell on Cape.
22	4228	421A	19 Nov 62	Launched from Silo 31B. Landed in planned impact area. Met 98% of test objectives.
23	4230	424	7 Dec 62	First Minuteman missile to carry Mark II re-entry vehicle. Launched from Silo 32B by all Air Force crew. Impact as planned. Met 98% test objectives.
24	5032	423	14 Dec 62	First Minuteman missile launched into Station 12 MILS net and first to have all interim Wing II motors. Silo launched from pad 31B. Impact as planned. Met 98% of test objectives.

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# MINUTEMAN LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
30	117	419A	27 Mar 63	Launched from Silo 32B. Flight normal with impact in target area. Met all test objectives. It was a Wing II configured missile.
31	976	425A	10 Apr 63	Launched from Silo 31B. Landed in Sta 12 impact area. Flight normal through thrust termination. Re-entry vehicle did not separate cleanly which caused abnormal oscillation.
32	977	425B	18 May 63	Launched from Silo 32B. Malfunctioned and destroyed itself at T + 45 seconds. No RSO destruct required. Second and third stages did not ignite. Met 43% of test objectives.
33	1598	428	28 May 63	Launched from Silo 31B. Landed in impact area. Met 95% of test objectives. Was first Minuteman equipped with retro-rockets to increase distance between impact points of third stage and re-entry vehicle.
34	978	427	5 Jun 63	Launched from Silo 32B. Landed on target 5000 miles downrange. It was launched by 6555th Aerospace Test Wing crew. 83% of test objectives were met.
35	103	429	27 Jun 63	Launched from Silo 31. Impact on target 5000 miles downrange. Launch was conducted by 6555th Aerospace Test Wing crew. All test objectives were met.

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PERSHING LAUNCHINGS

<u>TOTAL</u> <u>TO</u> <u>DATE</u>	<u>TEST</u> <u>NUMBER</u>	<u>MISSILE</u> <u>NUMBER</u>	<u>DATE</u> <u>LAUNCHED</u>	<u>REMARKS</u>
<u>JULY - DECEMBER 1962</u>				
39	1336	338	21 Aug 62	Launched from pad 30A. Met all test objectives. Warhead section impacted 16.5 yards right and 88.3 yards short of target.
40	1914	347	26 Sep 62	Launched from pad 30. Met all test objectives. Nose cone impacted in target area 419 seconds after launch.
41	2879	351	22 Oct 62	First Pershing launched from unprepared sandy ground to test launch capabilities under field conditions. Met all test objectives. Impact was in preselected target area.
42	3725	348	15 Nov 62	Launched from pad 30A. Nose cone landed in target area. All test objectives met.
43	3727	354	27 Nov 62	Launched from pad 30A. All systems functioned as planned and impact was in target area. All test objectives were accomplished.
44	3726	353	10 Dec 62	Launched from pad 30A. Impact was in target area and all test objectives were met.
<u>JANUARY - JUNE 1963</u>				
45	4233	358	17 Jan 63	Fired from mobile erector launcher on pad 30A. Re-entry body impact was 147.5 yards right and 585 yards short of target point. Missile met assigned test objectives. Range 200 NM.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962</u>				
143	2881	A2PE-11	12 Jul 62	Launched by USS John Marshall from submerged depth of 91 feet, into Antigua MILS net. Impact was .0865 NM long and .588 NM right of target.
144	2882	A2PE-10	12 Jul 62	Launched by USS John Marshall from submerged depth of 91 feet, into Antigua MILS net. Impact was .14 NM long and 1.236 NM right of target.
145	4475	A2P-12	21 Jul 62	Launched from USS John Marshall from submerged depth of 92 feet, on long-range flight into BOA. Impact was 1.432 NM short and 2.05 NM left of target on 1554 NM flight.
146	2885	A2P-13	21 Jul 62	Launched by USS John Marshall
147	4121	A2P-2	21 Jul 62	Launched by USS John Marshall from submerged depth of 92 feet, on short-ranged flight to Grand Turk MILS net. Impact was 0.08 NM long and 0.022 NM right of target on 622 NM flight.
148	2883	A2TF-1	26 Jul 62	Pad launched from 25A. Second stage guidance malfunction steered missile off course. RSO sent flight termination command at T + 92.238 seconds ending flight.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962 (Cont'd)</u>				
149	4301	A1P-1	27 Jul 62	These four missiles were sub-launched by USS Geo. Washington at one minute intervals on an operational basis. Test results will be released only on a strict need to know basis by the Chief of Naval Operations.
150	4302	A1P-2	27 Jul 62	
151	4303	A1P-3	27 Jul 62	
152	4304	A1P-4	27 Jul 62	
153	2884	A3X-1	7 Aug 62	
154	2887	A2TF-2	10 Aug 62	Pad launched from 25A. All systems functioned normally during powered flight. Impact was 1.07 NM long and 0.21 NM left of target.
155	4235	A2TF-3	17 Aug 62	Pad launched from 25A. Smoke seeped from interstage bleed holes and interstage hand access doors were blown off about T + 10 seconds. RSO sent flight termination command, at T + 15.014 seconds.
156	4236	A2TF-4	27 Aug 62	Pad launched from 25A. Flight normal throughout. Impact in BOA 0.3264 NM long and 0.070 NM left of target.
157	4237	A3X-2	6 Sep 62	

POLARIS LAUNCHES

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962 (Cont'd)</u>				
158	4240	ALT-6	14 Sep 62	Shipboard launch from USS Observation Island. Met all test objectives.
159	5596	ALT-5	15 Sep 62	Shipboard launched from USS Observation Island. First stage followed planned trajectory. Re-entry vehicle did not separate from second stage. No primary objectives met.
160	4238	A3X-3	5 Oct 62	Pad launched from 29A.
161	6521	ALT-8	14 Oct 62	Shipboard launched from USS Observation Island. All systems functioned normally and impact was in target area.
162	6616	ALT-7	14 Oct 62	Shipboard launched from USS Observation Island. Missile failed to stabilize on desired trajectory. RSO destruct at T + 92.46 seconds.
163	4241	A3X-4	5 Nov 62	Pad launched from 29A.
164	5631	A3X-5	17 Nov 62	Pad launched from 29A.
165	5632	A3X-6	6 Dec 62	Pad launched from 29A.

POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JULY - DECEMBER 1962 (Cont'd)</u>				
166	5635	A2G-4	19 Dec 62	Pad launched from 25A. Carried A3 guidance. Flight normal. Impact was in target area. All test objectives met.
<u>JANUARY - JUNE 1963</u>				
167	108	A2P	4 Feb 63	Fired into Antigua MILS net by submarine returning from patrol duty to prove operation of missile system after undergoing sea patrol.
168	109	A2P	4 Feb 63	
169	110	A2P	5 Feb 63	Fired into Antigua MILS net by submarine returning from sea patrol to prove operation of missile system after a period on sea patrol.
170	111	A2P	5 Feb 63	
171	115	A3X-8	7 Feb 63	Pad launched from 29A.
172	1255	A3X-7	11 Feb 63	Pad launched from 25A.
173	126	A3X-9	18 Feb 63	Pad launched from 29A.
174	130	A2P-117	21 Feb 63	Submarine launched from SS Thomas Jefferson. First launch from this sub. All systems functioned properly and re-entry body impacted as predicted.

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
175	305	A2P-116	7 Mar 63	Sub launched from Thomas Jefferson. Missile cleared sub tube properly but abnormal operation just after first stage ignition resulted in RSO destruct at T + 17.43.
176	501	A2P-120	7 Mar 63	Sub launched from Thomas Jefferson at keel depth of 91 feet. Both first and second stages followed desired trajectory and impact was as predicted.
177	146	A2P	14 Mar 63	Fired into Antigua MILS net by submarine returning from sea patrol to prove operation of missile system after a period on sea patrol.
178	147	A2P	14 Mar 63	
179	301	A2P	14 Mar 63	
180	127	A3X-11	19 Mar 63	
				Pad launched from 29A.
181	304	A3X-18	8 Apr 63	Launched from pad 29A.
182	129	A3X-14	10 Apr 63	Shipboard launched from Observation Island.
183	2029	A2P	17 Apr 63	Fired into Antigua MILS net by submarine returning from sea patrol to prove operation of missile system after a period of sea patrol.
184	2048	A2P	17 Apr 63	
185	2067	A2P	17 Apr 63	

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POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
186	2086	A2P	18 Apr 63	Fired into the Antigua MILS net by submarine returning from sea patrol to prove operation of missile system after a period of sea patrol.
187	2240	A2P	18 Apr 63	
188	2266	A2P	18 Apr 63	
189	2076	A3X-20	26 Apr 63	Shipboard launched from Observation Island.
190	112	A3X-12	10 May 63	Launched from pad 25A.
191	303	A3X-15	17 May 63	Launched from pad 25A.
192	2825		4 Jun 63	
193	2793		4 Jun 63	
194	2744		4 Jun 63	
195	2718		4 Jun 63	
196	2834		4 Jun 63	
197	2849		4 Jun 63	



# POLARIS LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
198	2401	A3X-25	6 Jun 63	Launched from pad 25A.
199	2801	A2P-121	13 Jun 63	Sub launched from USS Lafayette. Loss of the 800 CPS power supply caused loss of missile control and destruct command was sent at 98.78 seconds.
200	2802	A2P-154	13 Jun 63	Sub launched from USS Lafayette at keel depth of 90 ft and speed of 1.1 knots. Missile performance was satisfactory and re-entry body was delivered to target area.
201	2804	A3X-24	17 Jun 63	Shipboard launched from USS Observation Island.
202	2803	A3X-22	21 Jun 63	Shipboard launched from USS Observation Island.
203	2691		24 Jun 63	} Launched by submarine on sea patrol
204	2785		24 Jun 63	
205	2675		24 Jun 63	
206	2810		24 Jun 63	
207	3983		24 Jun 63	
208	3999		24 Jun 63	

PERSHING LAUNCHINGS

TOTAL TO DATE	TEST NUMBER	MISSILE NUMBER	DATE LAUNCHED	REMARKS
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
46	133	363	30 Jan 63	Fired from erector launcher on pad 30A. Range was 200 NM. Impact was 105 yards right and 14.1 yards short of target. Assigned test objectives met.
47	113	403	14 Feb 63	Fired from erector launcher on pad 30A. Programmed cutoff of second stage motor did not occur and re-entry body did not separate. Impact of the two was 109.9 NM long and 1.3 NM right of intended 200 NM range.
48	114	406	25 Feb 63	Fired from erector launcher on pad 30A. Operation was normal and test objectives were accomplished. Impact was 62 yards long and 81 yards left of target at 145 NM range.
49	134	405	4 Mar 63	Fired from erector launcher sloped earth surface on pad 30D. Both stages performed normally and all test objectives were accomplished. Programmed range was 300 NM.
50	135	407	13 Mar 63	Tactically fired from erector launcher on pad 30A. Programmed range was 110 NM. Impact of warhead was 170 yards left and 462 yards short of target. All test objectives accomplished.
51	507	410	21 Mar 63	Launched under tactical conditions from pad 30A to planned range of 300 MN. Powered flight was normal and all test objectives were accomplished.

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PERSHING LAUNCHINGS

<u>TOTAL</u> <u>TO</u> <u>DATE</u>	<u>TEST</u> <u>NUMBER</u>	<u>MISSILE</u> <u>NUMBER</u>	<u>DATE</u> <u>LAUNCHED</u>	<u>REMARKS</u>
<u>JANUARY - JUNE 1963 (Cont'd)</u>				
52	506	408	3 Apr 63	Launched on planned 203 NM range from erector launcher located on sand slope adjacent to pad 30A. Warhead impact was 660 yards short and 1867 yards left of target. All test objectives were accomplished.
53	509	511	5 Apr 63	First Group V missile was fired from erector launcher located on sand slope adjacent to pad 30A. Planned range was 326 NM. All essential test objectives accomplished.
54	982	515	12 Apr 63	Tactical launch operations performed by 2nd Missile Battalion, 44th Artillery for first time. Programmed range was 220 NM. Impact was 182 yards short and 363 yards right of target. Essential objectives met.
55	983	520	17 Apr 63	Launched under field conditions from earth pad 30E on programmed 145.3 NM range. Impact was 2 yards long and 621 yards right of target. Test objectives were met.
56	984	521	24 Apr 63	Last launch of Group V configuration. Range was 109.97 NM. Impact was 123 yards short and 170 yards left of target. Essential test objectives were accomplished.

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