MISSILE: Agena 1120 / Thor 327

LAUNCHED: 1341 PST, 13 January 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: Launched 13 January 1962. The countdown started at 0335 PST and progressed to liftoff with 3 holds totaling 131 minutes. Hold no. 1 was imposed at T-60 minutes for 50 minutes to adjust liftoff time for trains. Hold no. 2 was imposed at T-7 minutes for 79 minutes due to a malfunction in the Thor Fuel Flow Meter. The count was recycled to T-15 minutes and hold no. 3 was imposed at T-1 minute 30 seconds to allow the Thor LOX Tank pressure to decay. This was a momentary hold.

FLIGHT PERFORMANCE:

Event		Time	D:	ifference
1. MECO VECO		144.2		4.2 main
Separa	tion	153.1		8.9 vernier
Ignition		161.1 193.3		8.0 delay
Burnou		203.9	¥.	32.2 coast
		200.9		l0.6 hustler

2. Thor Airborne Systems - operated satisfactorily

Agena Airborne Systems - An electrical short apparently occurred at the time of separation which caused the loss of power to the attitude control gyros. The gyros continued to coast for approximately 30 seconds. At Agena engine ignition, the engine hydraulics were responding to large gyro outputs and the vehicle began to tumble violently. Engine shutdown occurred after 10.6 seconds of burn due to this tumbling.

3. MECO Velocity 10929 fps
Agena Velocity No Orbit
Apogee No Orbit
Perigee No Orbit
Agena Orbital Wieght No Orbit

AEROSPACE GROUND EQUIPMENT PERFORMANCE

Thor - All AGE Systems operated satisfactorily

Agena - All AGE Systems operated satisfactorily

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

REMARKS:

Discoverer 37 was originally scheduled to be launched on 12 January 1962 but the countdown was not attempted due to a payload problem discovered before the countdown was initiated.

Franky

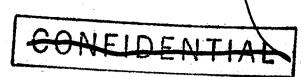
6595-62-0289

"Ferret 1" (PH)

CABLE SPLICE

MISSILE: Agena 2301/Thor 332

LAUNCHED: 1044 PST, 21 February 1962, Pad 5



COUNTDOWN HISTORY:

First Attempt: Cancelled at T-15 minutes due to high velocity upper air winds. Technical holds totaling 4 hours and 24 minutes were imposed. Hold No. 1 lasted 288 minutes and was called to await launch of Mercury. Hold No. 2 lasted 32 minutes due to trains in the hazard corridor. Hold No. 2 lasted 14 minutes due to evaluation of upper air winds.

Second Attempt: Launched 21 February 1962. The countdown was initiated at 0240 PST and progressed to liftoff with one hold of 4 minutes, 37 seconds duration. The hold was imposed during Phase V of the terminal countdown due to the dropout of a circuit breaker in the Launch Control Cabinet which caused the transporter to fail to retract.

FLIGHT PERFORMANCE:

	Event	Time				Dif	ference
1.	MECO	146.2				146	.2 main
	VECO	155.4				. 9	2.2 vernier
	Separation	169.8				14	1.4 delay
	First Ignition	191.2				21	.4 coast
	First Burnout	433.2				2	242 hustler
	Second Ignition	No ind	ication	of se	cond	burn i	received.
	Second Burnout	11	11	11	11	11	11

2. Agena Airborne Systems - operated satisfactorily except for second burn.

Thor Airborne Systems - operated satisfactorily.

3. MECO Velocity 11,119 fps

Orbital Velocity 25,860 fps (first injection)

Apogee 198 N.M.
Perigee 112 N.M.
Agena Orbital Weight 2,490 lbs.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Thor - Operated satisfactorily.

Agena - Operated satisfactorily except that Agena oxidizer tanking took abnormally long, due to a clogged filter from detanking after the previous countdown.

REMARKS:

This was the first of the Project 102 vehicles.

DWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10 GEORGE

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MISSILE: Agena 1123/Thor 241

LAUNCHED: 1139 PST, 27 February 1962

COUNTDOWN HISTORY:

First Attempt: The countdown started at 0335 PST and progressed to liftoff with one hold imposed at T-15 minutes for 10 minutes due to trains in the hazard corridor.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	MECO	149.0	149.0 main
	VECO	158.2	9.2 vernier
	Separation	168.1	9.9 delay
	Ignition	196.1	28.0 coast
	Burnout	441.9	245.8 hustler

2. Agena Airborne Systems - operated satisfactorily.

Thor Airborne Systems - operated satisfactorily.

3.	MECO Velocity	11,038 fps
	Orbital Velocity	25,720 fps
	Apogee	219 N.M.
	Perigee	111 N.M.
	Agena Orbital Weight	2,809 lbs.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Agena - operated satisfactorily

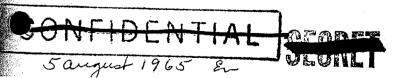
Thor - operated satisfactorily

REMARKS:

The capsule was ejected on the 65th pass and aeriel recovery was accomplished on 3 March 1962.

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DISCOVERER 39

CONFIDENTIAL

MISSILE: Agena 1124/Thor 331

LAUNCHED: 1654 PST, 17 April 1962

COUNTDOWN HISTORY:

First Attempt: The countdown started at 0830 PST and progressed to lift off with one hold imposed during Phase III of the terminal count due to failure of the Agena helium tank to pressurize above 2700 PSI because of a loose B-nut on the QD.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	MECO VECO Separation Ignition Burnout	146.0 154.9 161.5 193.9 431.8	146.0 main 8.9 vernier 6.6 delay 32.4 coast 137.9 hustler

2. Agena Airborne Systems - TM Link I was lost.

Thor Airborne Systems - operated satisfactorily.

3.	MECO Velocity	11,126 FPS
	Orbital Velocity	25,807 FPS
	Apogee	278 NM
	Perigee	113 NM
	Agena Orbital Weight	2,720 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Agena - operated satisfactorily

Thor - operated satisfactorily

REMARKS:

After loss of TM it was decided to make early recovery of the capsule which was ejected from orbit on the 35th pass. Aerial recovery was accomplished on 19 April 1962. The Zeke system was used as backup on recovery and functioned properly. It has since been discovered that tantulum capacitors used in the Link I TM are sensitive to vacuum conditions.

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MISSILE: Agena 1125/Thor 333

LAUNCHED: 1630 PST, 28 April 1962

COUNTDOWN HISTORY:

First Attempt: The countdown started at 0800 PST and progressed to liftoff with one hold imposed during Phase III of the terminal count due to a malfunction of the fine LOX load system. A sticking micro switch was loosened and then the terminal count proceeded normally to liftoff.

FLIGHT PERFORMANCE:

Event	Time	Difference
1. MECO	$\overline{147.6}$	147.6 main
VECO	156.6	
Separation	165.1	9.0 vernier
Ignition		8.5 delay
J	193.7	28.6 coast
Burnout	428.8	235.1 hustler

2. Agena Airborne Systems -- The H Timer apparently either stopped or slowed down between the second and seventh orbits. The time discrepancy was corrected by the 13th orbit by speeding up the timer.

Thor Airborne Systems -- operated satisfactorily.

3.	MECO Velocity	11,098	FPS
	Orbital Velocity	25,721	
	Apogee	24.13	
	Perigee	121.5	NM
	Agena Orbital Weight	2,700	LBS

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Agena -- operated satisfactory.

Thor -- operated satisfactory.

REMARKS:

Capsule ejection was accomplished on the 96th orbit, but recovery was not attained due to failure of the parachute cover to release.

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Cy# 1 of 3 cys

DOD DIRECTIVE 5200.10 SCLASSIFIED AFTER 12 YEARS DOWNCRADED TO 3 YEAR INTERVALS,



Arga (14).

MISSILE: Agena 1126 - Thor 334

LAUNCHED: 1236 PDT, 15 May 1962, Pad 5

COUNTDOWN HISTORY:

First Attempt: The countdown started at 0300 PDT, 15 May 1962, and progressed to liftoff with six holds totaling 118 minutes.

- a. Hold No. 1 was imposed at T-60 minutes for evaluation of the H-Timer and trains in the hazard corridor (25 minutes).
- b. Hold No. 2 was imposed at T-15 minutes and lasted 15 minutes due to trains in the hazard oorridor.
 - c. Hold No. 3 was imposed in Phase V for 8 minutes due to trains.
- d. Phase V was recycled and Hold No. 4 was imposed in Phase V for 6 minutes due to trains.
- e. Phase V was again recycled and Hold No. 5 was imposed in Phase V for 6 minutes due to intermittant indication of 100% LOX.
- f. Phase V was recycled for the third time and Hold No. 6 was imposed in Phase V and lasted 33 minutes due to intermittant indication of 100% LOX. However, one minute after the hold was imposed the Range was closed due to trains.

FLIGHT PERFORMANCE:

$\frac{\text{Event}}{\text{MECO}}$	Time	Difference
	144.2	144.2 main
VECO	153.2	9.0 vernier
Separation	159.1	5.9 delay
Ignition	212.3	54.2 coast
Burnout	456.6	244.3 hustler

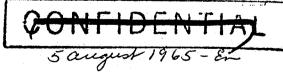
Agena Airborne Systems - operated satisfactorily.
 Thor Airborne Systems - operated satisfactorily.

J.		10,793 FPS
	Orbital Velocity	25,692 FPS
	Perigee	160 N.M.
	Apogee	
	- •	350 N.M.
	Agena Orbital Weight	2,429 lbs

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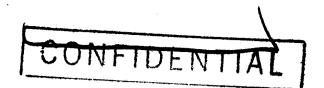
AEROSPACE GROUND EQUIPMENT:

Thor and Agena both operated satisfactorily.



REMARKS: The capsule was ejected on the 63rd pass and aerial recovery was accomplished on 19 May 1962.





MISSILE: Agena 1128/Thor 336

LAUNCHED: 1700 PST, 29 May 1962, Pad 1

COUNTDOWN HISTORY:

- 1. First Attempt: Initiated on 28 May 62, and aborted due to a horizon scanner problem.
- 2. Second Attempt: Started at 0930 PST on 29 May 62, and proceeded to liftoff with no holds.

FLIGHT PERFORMANCE:

Event	Time	Difference
1. MECO	147.5	147.5 main
VECO	156.4	9.0 vernier
Separation	162.4	6.0 delay
Ignition	191.7	19.3 coast
Burnout	430.9	239.2 hustler
	1	,

2. Agena Airborne Systems - operated satisfactorily.

Thor Airborne Systems - operated satisfactorily.

3.	MECO Velocity	11,047 FPS
	Agena Velocity	25,679 FPS
	Apogee	104 N.M.
	Perigee	196 N.M.
	Agena Orbital Weight	2,780 lbs

AEROSPACE GROUND EQUIPMENT:

Thor and Agena both operated satisfactorily.

REMARKS:

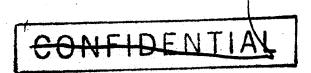
The capsule was ejected on the 48th pass, and aerial recovery was accomplished on 1 June 1962_{\bullet}

DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

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MISSILE: Agena 1127/Thor 335

LAUNCHED: 1731 PDT, 1 June 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 1000 PDT and progressed to liftoff with no holds.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	месо	147.4	147.4 main
-#- O	VECO	156.4	 8.0 vernier
	Separation	164.0	7.6 delay
	Ignition	195.3	31.3 coast
	Burnout	427.8	232.5 hustler

2. Agena Airborne Systems - operated satisfactorily.

Thor Airborne Systems - operated satisfactorily.

3.	MECO Velocity	11,093 FPS
	Agena Velocity	25,706 FPS
	Apogee	115 N.M.
	Perigee	224 N.M.
	Agena Orbital Weight	2,752 LBS

AEROSPACE GROUND EQUIPMENT:

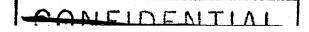
Thor and Agena both operated satisfactorily.

REMARKS:

The capsule was ejected on the 64th pass on 5 June 1962; however, during an attempted aeriel recovery the parachute was damaged and the capsule hit the water and sank immediately.

DOWNGRADED AT 3 YEAR INTERVALS, DICLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200,10

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MISSILE: Agena 2312, Thor 343

LAUNCHED: 1320 PDT, 18 June 1962, Pad 5

COUNTDOWN HISTORY:

- 1. First Attempt: The countdown was initiated at 0555 PDT, 16 Jun 62, and scrubbed at 1120 PDT due to technical problems in the payload.
- Second Attempt: The countdown was initiated at 0400 PDT, 18 Jun 62. During the countdown a liftoff tone test signal was sent from the Lockheed launch conductors console which caused the Agena umbilicals to drop out. The countdown proceeded anter re-installation of the umbilicals with three holds totaling 73 minutes. Hold No. 1 was imposed at T-60 minutes for 55 minutes to complete work that had fallen behind due to the umbilical problem. Hold No. 2 was imposed in Phase V for 8 minutes due to a man in the hazard corridor. Phase V was re-cycled and Hold No. 3 was imposed in Phase V for 10 minutes due to a faulty Agena gyro spin motor monitor indication.

FUIGHT PERFORMANCE:

	JOHN THE STATE OF	Time	Difference
	Event	$\frac{141.8}{142.8}$	142.8 main
1.	MECO		9.0 vernier
	VECO	151.8	11.8 delay
	Separation	163.6	43.5 coast
	First Ignition	207.1	232.9 hustler
	First Burnout	440.0	
	Second Ignition	3,175.2	2,735.2 coast
	Second Burnout	3,176.4	1.2 hustler

Agena Airborne Systems - operated satisfactorily. Thor Airborne Systems - operated satisfactorily.

3. MECO Velocity Agena Velocity Apogee Perigee Agena Orbital Weight	11,217 FPS 25,230 FPS (after second burn) 223 N.M. (after second burn) 200 N.M. (after second burn) 2,524 lbs.
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AEROSPACE GROUND EQUIPMENT:

Thor: Operated satisfactorily.

Agena: A short in the Lockheed launch conductors console caused the Lockheed pneumatic system to energize when a liftoff tone test signal was sent and

dropped the umbilicals.

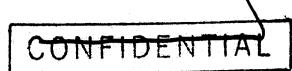
REMARKS:

second of a Program 102 (698BK) vehicle, and the payload was non-recoverable.

6595-62-2980

DOD DIRECTIVE 5200.10 CLASSIFIED AFTER 12 YEARS





MISSILE: Agena 1129 - Thor 339

LAUNCHED: 1730 PDT, 22 Jun 62, Pad 4

COUNTDOWN HISTORY:

The countdown was initiated at 1000 PDT, and progressed to liftoff with no holds.

FLIGHT PERFORMANCE:

1.131011	Time	Difference
Event 1. MECO VECO Separation Ignition Burnout	148.8 157.8 167.2 194.6 430.7	148.8 main 9.0 vernier 9.4 delay 27.4 coast 236.1 hustler

2. Agena Airborne Systems - operated satisfactorily.

Thor Airborne Systems - operated satisfactorily.

3.	MECO Velocity VECO Velocity	11,182 FPS 25,632 FPS 170 N.M.
	Apogee	113 N.M.
	Perigee Agena Orbital Weight	2,780 lbs.

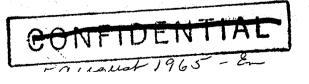
AEROSPACE GROUND EQUIPMENT:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

The capsule was ejected on the 48th orbit, and aerial recovery was accomplished on 25 Jun 62.

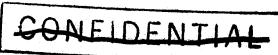
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6595-62-2977





MISSILE: Agena 1151/Thor 340

LAUNCHED: 1809 PDT, 27 June 1962, Pad 1

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 1000 PDT on 27 Jun 62 and progressed to liftoff with one hold for 40 minutes to complete work which had fallen behind schedule.

FLIGHT PERFORMANCE:

Event	Time	Difference
1. MECO	149.2	149.2 main
VECO	158.1	8.9 vernier
Separation	167.4	9.3 delay
Ignition	202.2	34.8 coast
Burnout	442.6	240.4 hustler

2. Airborne Systems Performance: Both Thor and Agena airborne systems performed satisfactorily.

3. MECO Velocity	11,107 FPS
Agena Velocity	25,840 FPS
Apogee	390 N.M.
Perigee	114 N.M.
Agena Orbital Weight	2,822 lbs.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

- 1. This was the first of the Agena "D" vehicles.
- 2. The recoverable capsule was ejected on the 64th pass and aeriel recovery was accomplished on 1 Jul 62.

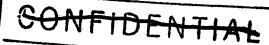
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6595-62-3157

Cy # 1 of 3 cyp





MISSILE: Agena 1130/Thor 342

LAUNCHED: 1756 PDT, 20 Jul 62, Pad 5

COUNTDOWN HISTORY:

- 1. First Attempt: The countdown was initiated at 1000 PDT, 19 Jul 62, and scrubbed at 1900 PDT due to rupture of a helium high pressure line and malfunction at the differential pressure switch in the Agena helium pressurization system.
- 2. Second Attempt: The countdown was initiated at 1000 PDT, 20 Jul 62, and progressed without difficulty until Phase IV of the terminal count, at which time a hold was imposed due to failure of Booster TM #1 causing loss of COTAR capability for range tracking. It was subsequently decided to launch without COTAR and terminal count proceeded to liftoff without further problems.

FLIGHT PERFORMANCE:

Event	Time	Difference
1. MECO	145.7	145.7 main
VECO	154.8	9.1 vernier
Separation	160.7	5.1 delay
Ignition	192.4	31.7 coast
Burnout	431.7	239.3 hustler

2. Airborne Systems Performance: Both Thor and Agena airborne systems performed satisfactorily.

3. MECO Velocity	11,160 FPS
Agena Velocity	25,700 FPS
Apogee	111 N.M.
Perigee	211 N.M.
Agena Orbital Weight	2 790 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

DOWN TRACTO AT 3 YEAR INTERVALS)
DICLASSILIED AFTER 12 YEARS
DOD DIRECTIVE 5200.10

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

The recoverable capsule was ejected on the 48th pass and aerial recovery was accomplished on 22 Jul 62.

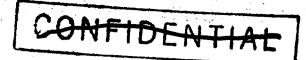
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MISSILE: Agena 1131/Thor 347

LAUNCHED: 1730 PDT, 27 July 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 1000 PDT on 27 Jul 62 and progressed to liftoff with no holds. One delay at approximately one hour occurred due to malfunction of the pad Firex deluge system causing Agena cabling connectors to ground out.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	MECO	143.5	143.5 main
	VECO	152.6	9.1 vernier
	Separation	158.2	5.6 delay
	Ignition	188.4	30.2 coast
	Burnout	430.9	242.5 hustler

2. Airborne Systems Performance: Both Thor and Agena airborne systems performed satisfactorily.

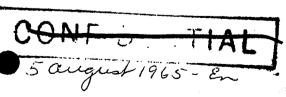
3.	MECO Velocity	11,180 FPS
	Agena Velocity	25,740 FPS
	Apogee	111 N.M.
	Perigee	225 N.M.
	Agena Orbital Weight	2,797 LBS

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

- 1. This was the first booster utilizing PDM telemetry.
- 2. The recoverable capsule was ejected on the 64th pass, and aerial recovery was accomplished on 31 Jul 62.





6595-62-3384

DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200 10



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MISSILE: Agena 1152/Thor 344

LAUNCHED: 1717 PDT, 1 August 1962, Pad 1

COUNTDOWN HISTORY:

- 1. First Attempt: The countdown was initiated at 0700 PDT on 21 Jul 62 and progressed without difficulty until 1500 when conflict with an Atlas launch countdown caused post-ponement for one day.
- 2. Second Attempt: The countdown was initiated at 1000 PDT and progressed to liftoff without any system problems.

FLIGHT PERFORMANCE:

	Event	<u>Time</u>	Difference
1.	MECO .	143.2	143.2
_•	VECO	152.0	8.8
	Separation	158.5	6.5
	Ignition	194.7	36.2
	Burnout	432.5	237.8

2. Airborne Systems Performance: Both Thor and Agena airborne systems performed satisfactorily.

3.	MECO Velocity	10,875 FPS
	Agena Velocity	25,740 FPS
	Apogee	113 N.M.
	Perigee	228 N.M.
	Agena Orbital Weight	2,777 LBS

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

- 1. The recoverable capsule was ejected on the 64th pass and aerial recovery was accomplished on 5 Aug 62.
- 2. This was the 50th Thor/Agena launch.

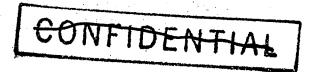


6595-62-3492

DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

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PROGRAM 162

MISSILE: Agena 1153/Thor 349

LAUNCHED: 1800 PDT, 28 August 1962, Pad 2

COUNTDOWN HISTORY:

First Attempt: This attempt was initiated on 27 Aug 62 and cancelled due to failure of the Agena ascent antenna.

Second Attempt: This attempt was initiated at 1000 PDT on 28 Aug 62, and progressed to liftoff with no holds.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	MECO	145.7	145.7 main
	VECO	154.8	9.1 vernier
	Separation	163,3	8.5 delay
	Ignition	196.6	33.3 coast
	Burnout	435.2	238.6 hustler

2. Airborne Systems Performance: Both Thor and Agena Airborne Systems performed satisfactorily.

3.	MECO Velocity	11,130 FPS
	Agena Velocity	25,725 FPS
	Apogee	218 N.M.
	Perigee	96.6 N.M.
	Agena Orbital Weight	2,808 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

- 1. The capsule was ejected on the 64th pass, and aerial recovery accomplished on 1 Sep 62.
- 2. This was the first Thor/Agena vehicle launched from 75-1-2.

DOD DIRECTIVE 5200.10

DOWNTRADED AT 3 YEAR INTERVALS, DICLASSIFIED AFTER 12 YEARS

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PROGRAM 162

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MISSILE: Agena 1132/Thor 348

LAUNCHED: 1339 PDT, 1 September 1962, Pad 5

COUNTDOWN HISTORY:

First Attempt: This attempt was initiated at 0600 PDT on 1 Sep 62, and progressed to liftoff with one hold of 9 minutes duration to adjust the T-Time Clock.

FLIGHT PERFORMANCE:

	Event	Time	Difference
1.	MECO	145.1	145.1 main
	VECO	154.1	9.0 vernier
	Separation	162.0	7.9 delay
	Ignition	217.0	55.0 coast
	Burnout	461.0	244.0 hustler

2. Airborne Systems Performance: Both Thor and Agena airborne systems performed satisfactorily.

3.	MECO Velocity	10,930	FPS
	Agena Velocity	25,700	
	Apogee		N.M.
	Perigee	162	N.M.
	Agena Orbital Weight	2,500	

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE operated satisfactorily.

REMARKS:

The capsule was ejected on the 64th pass, and recovery attempt on 5 Sep 62 failed when the capsule sank.

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PROGRAM 162

MISSILE: Thor 350/Agena 1133

LAUNCHED: 1646 PDT, 17 September 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0900 PDT on 14 September 1962 and was scrubbed when the velocity integrator gave erratic indications.

Second Attempt: The countdown was initiated at 0900 PDT on 16 September 1962 and was scrubbed when the Lifeboat gas loading solenoid valve failed to operate due to an electrical connector not being mated properly.

Third Attempt: The countdown was initiated at 0900 PDT on 17 September 1962 and progressed to liftoff with no holds.

FLIGHT PERFORMANCE:

Event		Predicted	Time	Ac	tual Time
1. MECO VECO Separa Ignita	ion	146.2 155.2 164.9 191.6 433.	2 5 6	• 1	147.0 156.1 166.1 193.0 436.7

2. Both Thor and Agena Airborne Systems performed satisfactorily.

	Predicted	<u>Actual</u>
MECO Velocity Injection Velocity Perigee Apogee Period Inclination Angle Agena Orbital Weight	10,985 fps (inertial) 25,759 fps (inertial) 111.9 n.m. 240.7 n.m. 91.02 min 81.74 deg 2794 lbs	11, 020 fps (inertial) 29,965 fps (inertial) 112 n.m. 362 n.m. 93.32 min 81.76 deg 2812 lbs

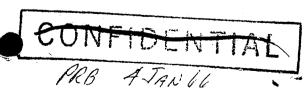
AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

3.

The capsule was ejected on the 17th pass and water recovery was accomplished on 18 September 1962.



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DOWNGRADED AT 3 YEAR INTERVALS, D CLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10 6595-62-4178

CONFIDENTIAL

NASA S-27

MISSILE: Thor 341/Agena 6101 - Spacecraft S-27 (Alovette)

LAUNCHED: 2305 PDT, 28 September 1962, Pad 1

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 1205 PDT on 26 September 1962 and was scrubbed when the Agena failed to receive the Destruct Arm Signal in Phase V of the Terminal Count. Four holds totaling 142 min were imposed.

Second Attempt: The countdown was initiated at 1205 PDT on 28 September 1962 and progressed to liftoff with one hold of 13 min duration imposed when the Thor link 1 telemetry set mal-

FLIGHT PERFORMANCE:

•	<u>Event</u>	Predicted Time	Actual Time	Actual Difference
1.	MECO	143.9	144.3	144.3
	VECO	152.9	153.3	9.0
	Agena Separation	160.5	162.5	9.2
	1st Ignition	186.4	185.3	22.8
	1st Burnout	424.2	421.8	236.5
	2nd Ignition	3319.4	3320.0	2898.2
	2nd Burnout	3322.8	3323.4	3.4

2. Both Thor and Agena airborne performance was satisfactory.

^			0 -
3.		Predicted	Actual
	MECO Velocity Perigee Velocity Attained Orbit Apogee Attained Orbit Perigee Attained Orbit Period Attained Orbit Inclination Angle Attained Orbital Weight	10970 fps 24050 fps 539.5 n.m. 546.8 n.m. 105.0 min 79.9 deg 2306 lbs	10961 fps 24160 fps 557.0 n.m. 538.0 n.m. 105.4 min 80.6 deg 2304 lbs

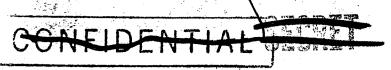
AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena age operated satisfactorily.

REMARKS:

- 1. This was the first NASA Thor/Agena Launch from the west coast.
- 2. The S-27 Spacecraft was built by Canada.
- 3. The spacecraft is reported to be performing satisfactorily.

CONFIDENTIAL



PROGRAM 162

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DOD DIR 5200.10

MISSILE: Thor 351/Agena 1154

LAUNCHED: 1635 PDT, 29 September 1962, Pad 2

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0840 PDT on 27 September 1962 and was aborted in Phase III of the Terminal Count due to a Thor umbilical problem.

Second Attempt: The countdown was initiated at 0835 PDT on 29 September 1962 and progressed to liftoff with no holds.

FLIGHT PERFORMANCE:

	Event	Predicted Time	Actual Time
1.	MECO	145.2	146.6
	VECO .	154.2	155.6
	Separation	161.6	164.7
	Ignition	198.4	197.9
	Burnout	437.3	435.8

2. Both Thor and Agena Airborne Systems operated satisfactorily.

•	Predicted	Actual
MECO Velocity (inertial)	11,170 fps	11, 175 fps
Injection Velocity (inertial)	26,679 fps	25, 720 fps
Apogee	197 n.m.	208 n.m.
Perigee	113 n.m.	106 n.m.
Period	90.16 min.	90.3 min.
Inclination Angle	64.91 lbs.	65.44 deg
Agena Orbital Weight	2,816 lbs.	2,812 lbs.
	Injection Velocity (inertial) Apogee Perigee Period Inclination Angle	MECO Velocity (inertial) Injection Velocity (inertial) Apogee Perigee Period Inclination Angle 11, 170 fps 26, 679 fps 197 n. m. 113 n. m. 90. 16 min.

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

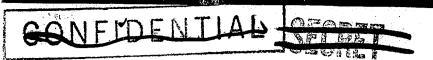
Both Thor and Agena AGE operated satisfactorily.

REMARKS:

The capsule was ejected on the 48th pass and aerial recovery was accomplished on 2 October 1962.

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Cy # 1 of 3 cys 6595-62-4407



DOWNGRADED AT 3-YEAR INTERVALS

PROGRAM 162

DECLASSIFIED AFTER 10 YEAR

MISSILE: Thor 352/Agena 1134

DOD DIR 5200.10

LAUNCHED: 1135 PDT, 9 October 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0300 on 9 October 1962 and progressed to liftoff with two holds totaling 35 min. Hold No. 1 was imposed at T-60 min. for 15 min. to adjust the T time clock to a change in launch window. Hold No. 2 was imposed at T-15 min. for 20 min. due to trains in the hazard area.

FLIGHT PERFORMANCE:

Event	Predicted Time	Actual Time
1. MECO VECO Separation Ignition Burnout	145.5 154.5 162.7 214.2 457.2	147. 2 156. 2 166. 1 206. 7 452. 1

2. Both Thor and Agena Airborne Systems operated satisfactorily.

			Predicted	Actual
3.	MECO Inertial Velocity Injection Inertial Velocity Apogee Perigee Period Inclination Angle Agena Orbital Weight	5	10,894 fps 25,349 fps 167.1 n.m. 164.2 n.m. 90.57 min. 81.77 deg 2,594 lbs	10, 785 fps 25, 285 fps 243 n. m. 123 n. m. 91. 02 min. 81. 99 deg 2, 595 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

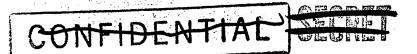
All Thor Airborne systems performed normally, however, during the BTL MBGE antenna switchover at T+68 sec, the BTL Ground Station receiver automatic frequency control tracked the normal transients and did not return to nominal. Therefore, guidance was lost and no discrete commands were sent. This has been corrected by installing a switch in the ground station with which the operator can return the automatic frequency control to nominal.

REMARKS:

The capsule was ejected on the 64th pass and aerial recovery was accomplished on 13 October 1962.

TA SECTION

Cy #1 of 3 cys



PROGRAM 162

DOWNGRADED AT 3-YEAR INTERVALS

DECLASSIFIED AFTER LO YEARS

MISSILE: Agena 1401/Thor 353

DOD DIR 5200.10

LAUNCHED: 0914 PDT, 26 October 1962, Pad 2

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0001 PDT on 24 October 1962 and was cancelled when the payload telemetry link malfunctioned.

Second Attempt: Tasks 1 through 6 were completed on 25 October due to anticipated interference with another vehicle and the final countdown was initiated at 0200 PDT on 26 October 1962. One hold of 75 min. duration was imposed due to trains in the hazard area and weather.

FLIGHT PERFORMANCE:

	Event	Predicted Time	Actual Time
•			•
1	MECO	145.7	147.7
- •	VECO	154.7	156. 7
	Separation	167.6	171.6
	Ignition	199.4	198. 5
	Burnout	439.7	441.6

Both Thor and Agena Airborne Systems performed satisfactorily.

•	*	Predicted	Actual
3 	MECO Velocity Injection Velocity Apogee	11,023 fps 29,006 fps 3,036 nm	11,040 fps 28,992 fps 3,020 nm
	Perigee Period Inclination Angle Agena Orbital Weight	114 nm 148.6 min 69.9 deg 2,016 lbs	110 nm 148.0 min 71.33 deg 2,018 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

1. This vehicle did not carry a recoverable package.

2. Data return from the radiation mapping experiments aboard have been

reported as good.

Cy # / af 3 cys 6595-62-4496



PROGRAM 162

CONFIDENTIAL

MISSILE: Agena 1136/Thor 356

LAUNCHED: 1404 PST, 5 November 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0630 PST on 5 November 1962 and proceeded to liftoff with two holds totaling 4 min imposed during Phase V of the Terminal Count. Both holds were imposed when the transporter-erector retracted slower than normal.

FLIGHT PERFORMANCE:

	<u>Event</u>	Predicted Time	Actual Time
1.	MECO	146.4	145.9
	VECO	155.4	154.8
	Separation	164.9	163.7
	Ignition	192.6	191.1
	Burnout	437.8	439.4

2. Both Thor and Agena Airborne Systems performed satisfactory.

3.		Predicted	Actual
	MECO Inertial Velocity Injection Inertial Velocity Apogee Perigee Period Inclination Angle Agena Orbital Weight	11,161 fps 25,727 fps 223.3 nm 112.6 nm 90.68 min 74.88 deg 2819 lbs	11,114 fps 25,728 fps 225.5 nm 113.3 nm 90.74 min 74.9 deg 2820 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

The capsule was ejected on the 65th pass and aeriel recovery was accomplished on 9 November 1962.

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6595-62-4785 Cy #1 of 3 cys

DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

SECRET

MISSILE: Thor 367/Agena 1135

LAUNCHED: 1401 PST, 24 November 1962, Pad 4

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0600 on 24 November 1962 and proceeded to liftoff with no holds.

FLIGHT PERFORMANCE:

	Event	Predicted Time	Actual Time
1.	MECO	147.1	149.1
	VECO	156.1	158.1
	Separation	164.9	170.5
	Ignition	192.6	192.8
	Burnout	434.8	434.8

2. Both Thor and Agena Airborne Systems operated satisfactorily.

		Predicted Time	Actual Time
2	MEGOT		
3.	MECO Inertial Velocity	11,171 fps	11,130 fps
	Injection Inertial Velocity	25,656 fps	25,660 fps
	Apogee	183.8 n.m.	186 n.m.
	Perigee	113.1 n.m.	114.6 n.m.
	Period	89.93 min.	89.90 min.
	Inclination Angle	64.87 deg	65.18 deg
	Agena Orbital Weight	2,910 lbs	2,923 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

- 1. The capsule was ejected on the 80th pass and aeriel recovery was accomplished on 28 November 1962.
- 2. This was the last of the Agena B vehicles to be launched by Program 162, and the first to attain a controlled orbit life of 5 days duration.

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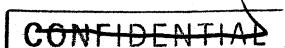
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SECRET-

PROGRAM 162



MISSILE: Thor 361/Agena 1155

LAUNCHED: 1330 PST, 4 December 1962, Pad 2

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0500 PST, 4 December 1962, and progressed to liftoff with one hold of 30 min duration imposed for trains in the danger area.

FLIGHT PERFORMANCE:

	<u>Event</u>	Predicted Time	Actual Time
ı.	MECO	145.3	146.8
	VECO	154.3	155.8
	Separation	161.7	162.2
	Ignition	198.8	191.5
	Burnout	437.0	433.2

2. Both Thor and Agena Airborne Systems performed satisfactorily.

3.		Predicted	<u>Actual</u>
	MECO Inertial Velocity Injection Inertial Velocity	25,692 fps	25,630 fps
	Apogee	11,155 fps 204 nm	10,853 fps 179 nm
	Perigee	113 nm	72 nm
	Period	90.3 min	88.9 min
	Inclination Angle	64.9 deg	65.2 deg
	Agena Orbital Weight	2,849 lbs	2,880 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

The capsule was ejected on pass 34 and recovery attempt on 6 December 1962 failed when the capsule sank.

CONFIDENTIAL PRB 4 JAN 66 6595-62-4899 Cy #1 of 3 cys

DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

SECRET

PROGRAM 698BK

MISSILE: Thor 365/Agena 2351

LAUNCHED: 2007 PST, 12 December 1962, Pad 1

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0800 PST on 7 December 1962, and was cancelled due to a fused relay creating improper power distribution in the Agena.

Second Attempt: The countdown was initiated at 0800 PST on 12 December 1962, and proceeded to liftoff with one hold of 7 minutes duration in the Terminal Count due to communication difficulties with PMR.

FLIGHT PERFORMANCE:

	Event	Predicted Time	Actual Time
1.	MECO	147.6	149.7
	VECO	156.6	158.7
	Separation	162,4	166.7
	1st Ignition	211.1	210.4
	1st Burnout	445.6	451.0
	2nd Ignition	3,308.1	Not achieved
,	2nd Burnout	3,311.5	Not achieved

2. Thor Airborne Systems: Performed satisfactorily.

Agena Airborne Systems: A malfunction in the velocity meter caused the Agena to burn to propellant depletion during the first burn period, therefore; second burn was not achieved and the attained orbit is highly elliptical due to the excess velocity at injection.

Predicted	Actual
11,373 fps	11,349 fps
26,338 fps	27,577 fps
24,244 fps	
504 N.M.	1,512 N.M.
505 N.M.	132 N.M.
103.5 min	116.4 min
69.4 deg	70.33 deg
2,371 lbs	2,388 lbs
	24,244 fps 504 N.M. 505 N.M. 103.5 min 69,4 deg

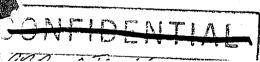
REMARKS:

This vehicle carried five non-recoverable payloads for the Naval Research Labs.

6595-62-5014

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DOWNGRADED AT 3 YEARS
DECLASSIFIED AFTER 12 YEARS





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PROGRAM 162

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MISSILE: Thor 368/Agena 1156

LAUNCHED: 1326 PST, 14 December 1962, Pad 5

COUNTDOWN HISTORY:

First Attempt: The countdown was initiated at 0500 on 14 December 1962 and progressed to liftoff with one hold of 29 min duration imposed at T-15 min to correct an Agena helium leak.

FLIGHT PERFORMANCE:

Eve	<u>ent</u>	Predicted Time	Actual Tim	<u>le</u>
Igr	•	146.5 155.5 162.9 193.9 436.9	146.0 154.9 161.3 192.8 433.9	

2. Both Thor and Agena Airborne Systems performed satisfactorily.

3.		<u>Predicted</u>	<u>Actual</u>
	MECO Inertial Velocity	11,176 fps	11,160 fps
	Injection Inertial Velocity	25,707 fps	25,700 fps
	Apogee	212.3 nm	218 nm
	Perigee	112.9 nm	108.9 nm
	Period	90.47 min	90.53 min
	Inclination Angle	69.88 deg	70.95 deg
	Agena Orbital Weight	2,893 lbs	2,893 lbs

AEROSPACE GROUND EQUIPMENT PERFORMANCE:

Both Thor and Agena AGE performed satisfactorily.

REMARKS:

The capsule was ejected on the 48th pass and aeriel recovery was accomplished on 17 December 1962.

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DOWNGRADED AT 3 YEAR INTERVALS, DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

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