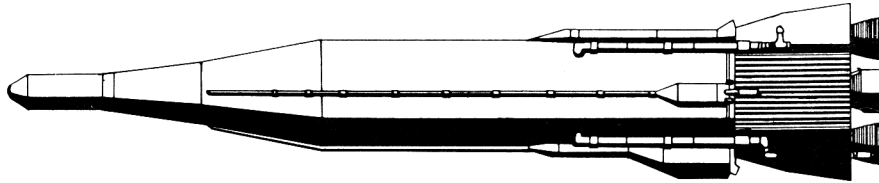


unclassified
~~CONFIDENTIAL~~

SECRET

Characteristics Summary

PILOTLESS SPACECRAFT SM-65E



"ATLAS"

GENERAL DYNAMICS - ASTRONAUTICS

Length (overall) 81.6 ft. Diameter (nominal)

AVAILABILITY

PROCUREMENT

Number available

Number to be delivered in fiscal years

ACTIVE	RESERVE	TOTAL				

STATUS

- | | |
|--|---|
| 1. Initial design complete (SM-65E) ... Apr 59 | 3. First flight SM-65E (test vehicle) Jul 60 |
| 2. Static test (start of SM-65E)..... Mar 60 | 4. Delivery of first operational missile to operational site Aug 60 |

Navy Equivalent: None

Manufacturer's Model: _____

POWER PLANT

NAA - Rocketdyne

Booster	Sustainer	Vernier
(2)* LR-	(1)** LR-	(2)***LR-
89-NA-5	105-NA-5	101-NA-7

Thrust (lb) @ S.L.
165,000(ea) 57,000 1000(ea)

Duration (sec)
130.6**** 288.2 —

Total thrust at Launch 389,000 lb

*Gimbaled Yaw ± 5.0°
Pitch & Roll ± 5.0°

**Gimbaled Yaw ± 3.0°
Pitch ± 3.0°

***Gimbaled Yaw - Roll ± 70°
Pitch -30 +20°

****Jettisoned at end of first stage

FUEL

Grade RP-1 77,376 lb
Oxidizer (Liquid Oxygen) ...
..... 174,818 lb

FEATURES

SM-65E is a ballistic type pilotless spacecraft designed to provide proficiency training; establish confidence in reliability; tactical use.

Airframe consists of forward, mid and aft section with no aerodynamic surfaces.

SM-65E is a one-and one-half stage spacecraft; all engines are started on the ground; the booster unit is jettisoned early in flight.

GUIDANCE

Guidance and control are performed by an All Inertial Guidance System in conjunction with a missile borne autopilot and hydraulic powered control system.

ARMAMENT

The re-entry vehicle separates from the mid section at the end of powered flight and follows a ballistic flight path to the target.

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

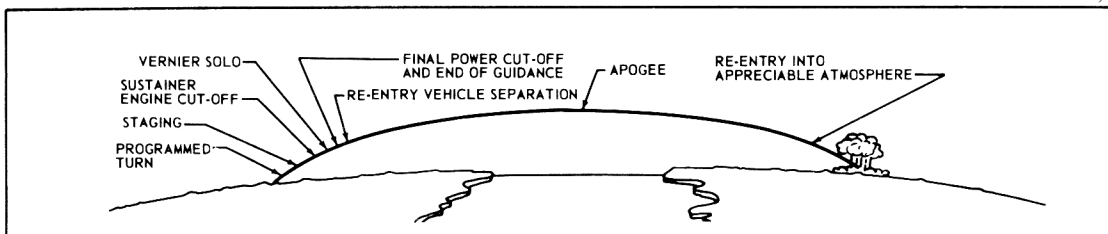
D.M. White 3/19/76

CG/AF/AS SM-65E/John

Add 455

57 WC-4983

Characteristics Summary Basic Mission



PERFORMANCE		
FLIGHT TIME	RANGE	VELOCITY
GUIDANCE 288.2 Seconds Not including vernier stage TOTAL FLIGHT 2589 Seconds Based on vacuum re-entry	6,973 Nautical Miles Based on non-rotating earth	Burnout 23,701 fps Re-entry 24,572 fps Impact (Vacuum Entry) 24,956 fps
LAUNCHING	ACCELERATION	ALTITUDE
Spacecraft is erected to vertical position on a launcher by a combination workstand and transport trailer. Workstand is removed and spacecraft is readied for launching.	POWERED FLIGHT Thrust/Weight 'G' Launch 1.45 Staging-Initiation 7.72 Burnout 7.20	SURFACE - SURFACE Burnout 994,113 ft (163.5 Nautical Miles) Apogee 5,145,181 ft (847 Nautical Miles) Re-entry 300,000 ft
RE-ENTRY VEH.	WEIGHTS	TARGET ACCURACY
Type Special Weight 3900 lbs Location Forward Section	Empty 15,903 lb Residuals 2,090 lb Propellant 249,032 lb Re-entry Vehicle 3,900 lb Launching 267,025 lb	Maximum accuracy attainable with an All Inertial Guidance System.

- N O T E S**
1. Programmed turn to reach flight path starts at 1800 ft altitude.
 2. Jettison of first-stage booster unit 133.6 sec after launch.
 3. Sustainer engine cut-off 288.2 sec after launch.
 4. Final power cut-off and end of guidance 313.0 seconds maximum after launch contingent upon the requirements of GFAE guidance.
 5. Re-entry vehicle section separation immediately after final cut-off.
 6. Apogee 1376 sec after launch, 847 nautical mile altitude.
 7. Re-entry into appreciable atmosphere 2553 sec after launch.