

PROJECT GEMINI

The second U.S. manned space program was announced in January 1962. Its two-man crew gave it its name, Gemini, for the third constellation of the Zodiac and its twin stars, Castor and Pollux. Gemini involved 12 flights, including two unmanned flight tests of the equipment.

Like Mercury's, its major objectives were clear-cut:

- * To subject man and equipment to space flight up to two weeks in duration;
- * To rendezvous and dock with orbiting vehicles and to maneuver the docked combination by using the target vehicle's propulsion system;
- * To perfect methods of entering the atmosphere and landing at a pre-selected point on land. Its goals were also met, with the exception of a land landing, which was cancelled in 1964.
- ** The land landing was replaced with the goal to have the astronaut leave the vehicle while in orbit (EVA) and perform tasks



THE MANNED FLIGHTS

Gemini III, "THE UNSINKABLE" MOLLY BROWN
March 23, 1965
Virgil I. Grissom, John W. Young

04 hours, 52 minutes 31 seconds
First manned Gemini flight, three orbits.

Gemini IV
June 03-07, 1965
James A. McDivitt, Edward H. White II

4 days 1 hour 56min 12 seconds
Included first extravehicular activity (EVA)
by an American; White's "space walk" was a
22 minute EVA exercise.

Gemini V
August 21-29, 1965
L. Gordon Cooper, Jr., Charles Conrad, Jr.

7 days 22 hours 55 min 14 seconds
First use of fuel cells for electrical power;
evaluated guidance and navigation system for
future rendezvous missions. Completed 120
orbits.

Gemini VII
December 04-18, 1965
Frank Borman, James A. Lovell, Jr.

13 days, 18 hours, 35 minutes 1 seconds
When the Gemini VI mission was scrubbed because
its Agena target for rendezvous and docking
failed, Gemini VII was used for the rendezvous
instead. Primary objective was to determine
whether humans could live in space for 14 days.

Gemini VI
December 15-16, 1965
Walter M. Schirra, Jr., Thomas P. Stafford

1 Day 1 hour 51 min 24 seconds
First space rendezvous accomplished with
Gemini VII, station-keeping for over five hours
at distances from 0.3 to 90 m (1 to 295 ft).

Gemini VIII
March 16, 1966
Neil A. Armstrong, David R. Scott

10 hours, 41 minutes 26 seconds
Accomplished first docking with another space
vehicle, an unmanned Agena stage. A malfunction
caused uncontrollable spinning of the craft; the
crew undocked and effected the first emergency
landing of a manned U.S. space mission.

Gemini IX
June 03-06, 1966
Thomas P. Stafford, Eugene A. Cernan

3 days, 21 hours
Rescheduled from May to rendezvous and dock with
augmented target docking adapter (ATDA) after
original Agena target vehicle failed to orbit.
ATDA shroud did not completely separate, making
docking impossible. Three different types of
rendezvous, two hours of EVA, and 44 orbits were
completed.

Gemini X

July 18–21, 1966

John W. Young, Michael Collins

2 days 22 hours 46 min 39 seconds

First use of Agena target vehicle's propulsion systems. Spacecraft also rendezvoused with Gemini VIII target vehicle. Collins had 49 minutes of EVA standing in the hatch and 39 minutes of EVA to retrieve experiment from Agena stage. 43 orbits completed.

Gemini XI

September 12–15, 1966

Charles Conrad, Jr., Richard F. Gordon, Jr.

2 days 23 hours 17 min 8 seconds

Gemini record altitude, 1,189.3 km (739.2 mi) reached using Agena propulsion system after first orbit rendezvous and docking. Gordon made 33-minute EVA and two-hour standup EVA. 44 orbits.

Gemini XII

November 11–15, 1966

James A. Lovell, Jr., Edwin E. Aldrin, Jr.

3 days, 22 hours, 34 minutes 31 seconds

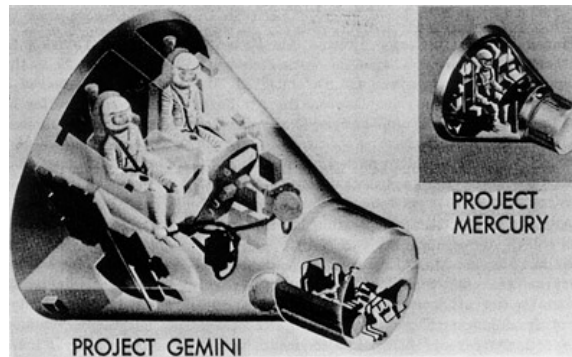
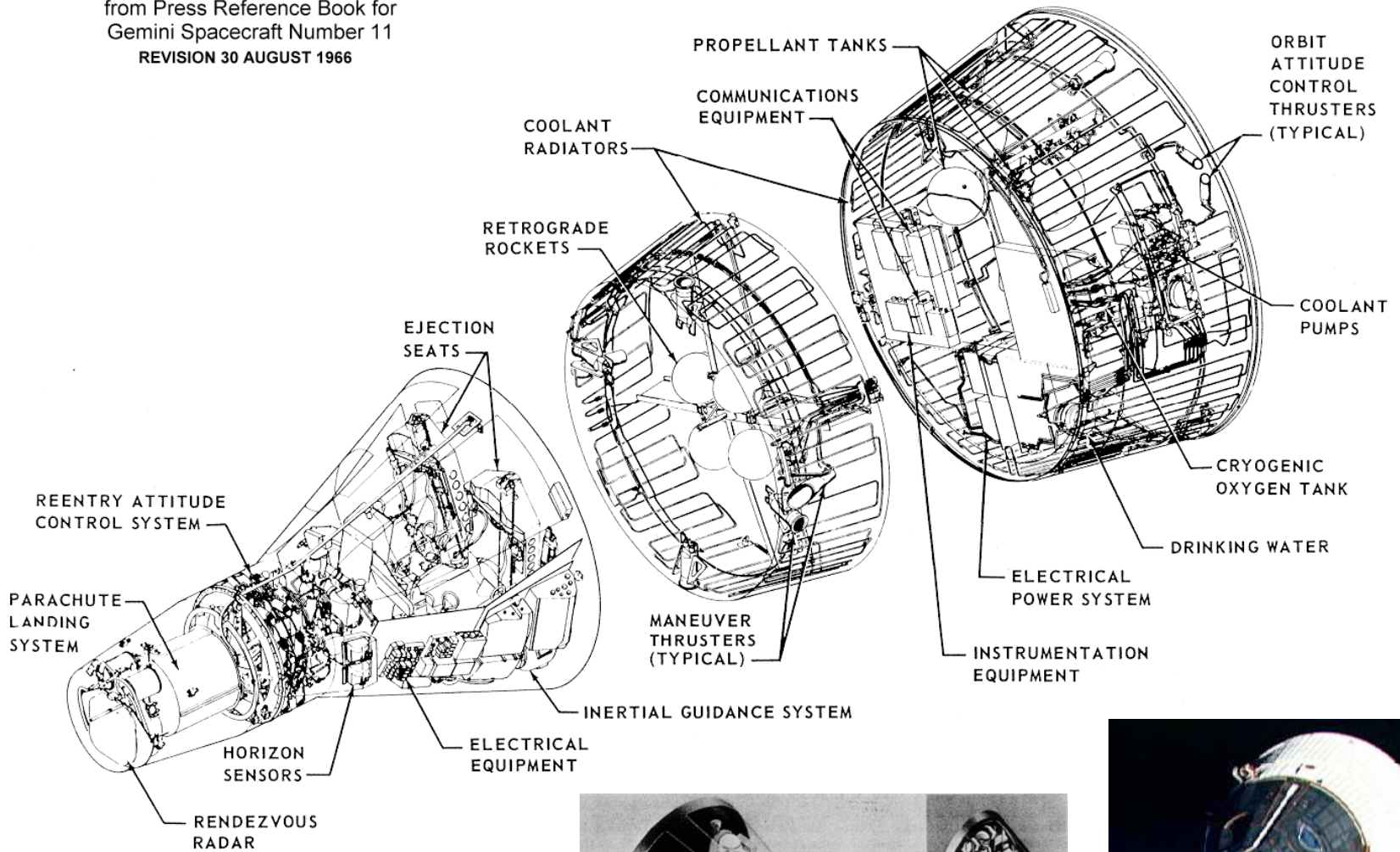
Final Gemini flight. Rendezvoused and docked with its target Agena and kept station with it during EVA. Aldrin set an EVA record of 5 hours, 30 minutes for one space walk and two stand-up exercises.



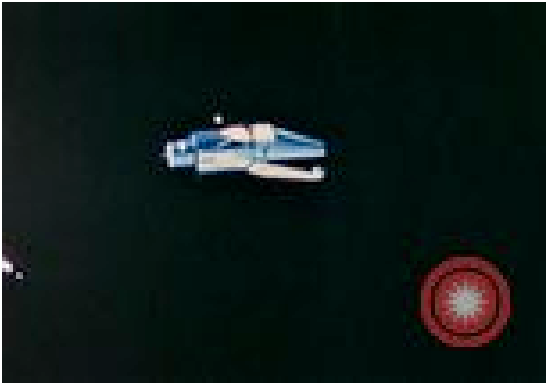
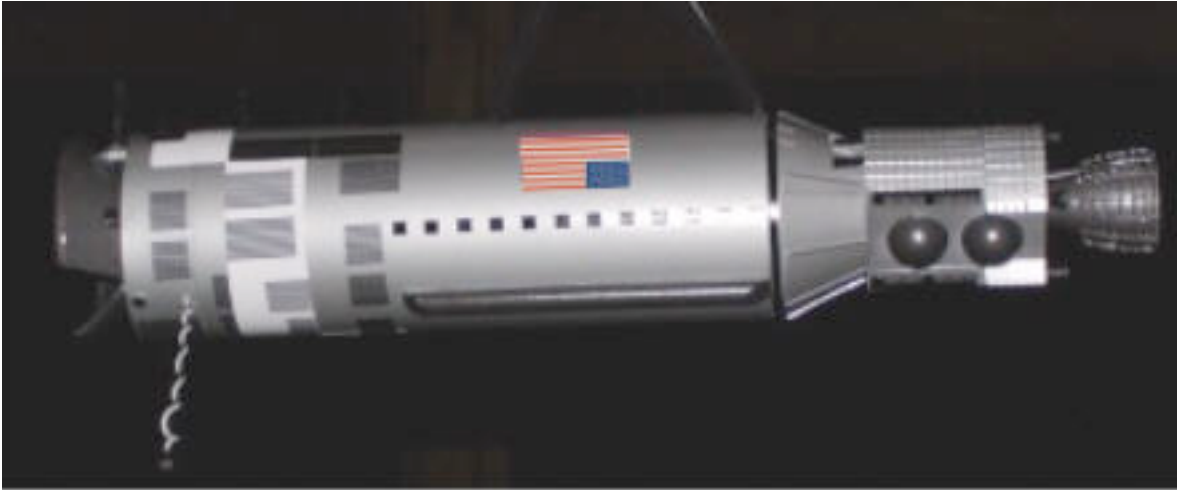
GEMINI EQUIPMENT ARRANGEMENT

from Press Reference Book for
Gemini Spacecraft Number 11
REVISION 30 AUGUST 1966

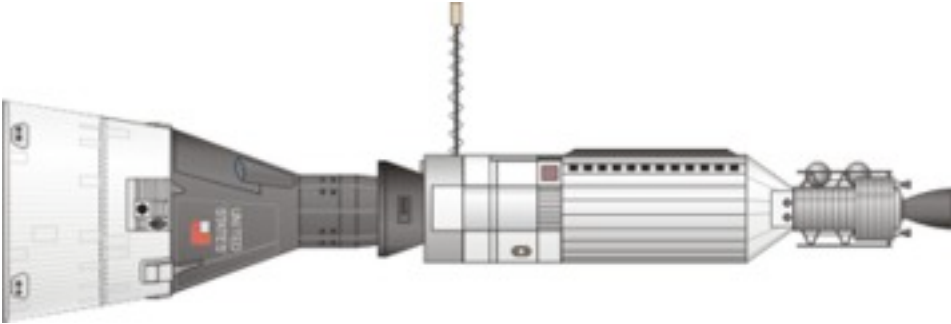
MCDONNELL



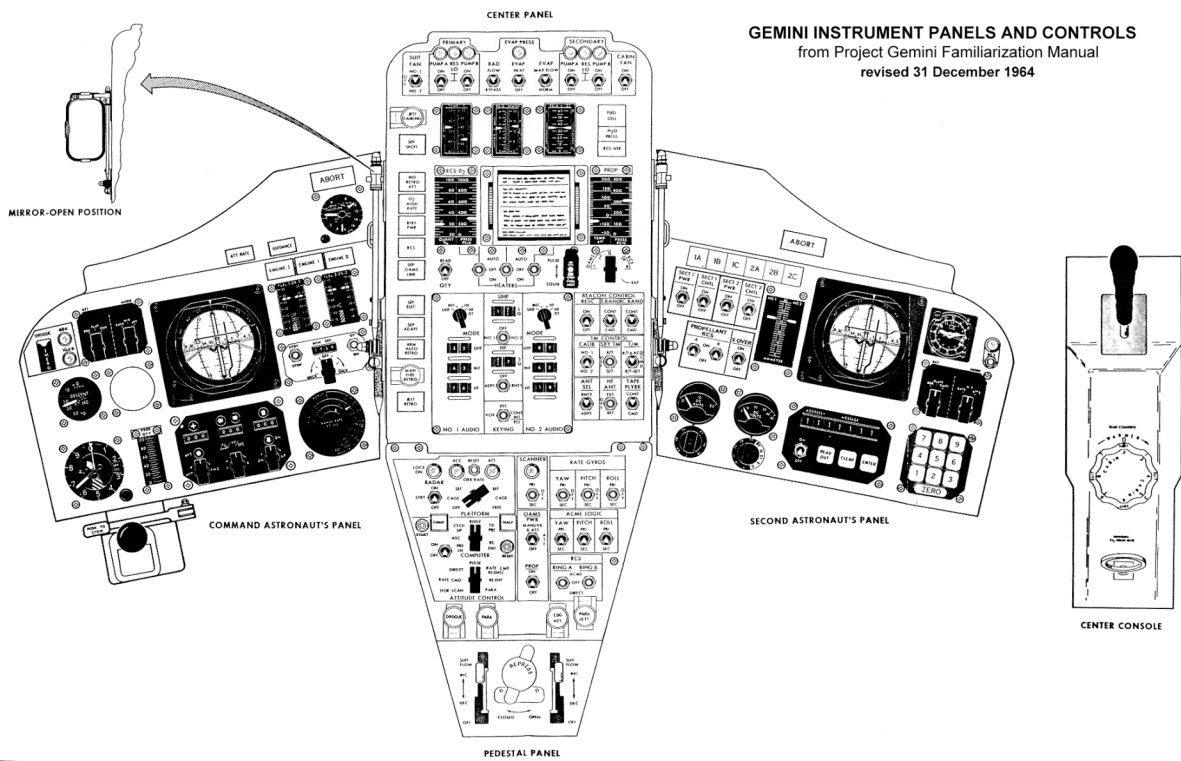
Agena Target Spacecraft



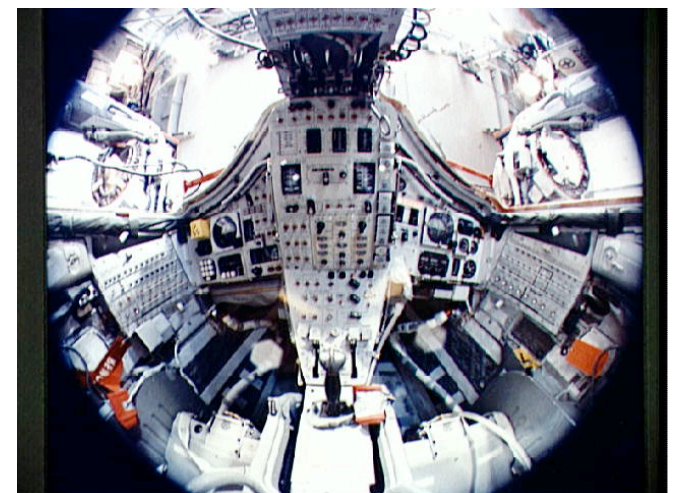
“Angry Alligator”
Gemini IX



Gemini+Agena docked



Astronaut's View





Aldrin's EVA; Gemini 12