

attached tether between Gemini spacecraft and GATV. Excessive fatigue from these activities caused early termination of EVA at 33 minutes. After returning to, and repressurizing spacecraft, the hatch was opened for 3 minutes to jettison umbilical EVA equipment. Using GATV primary propulsion system, docked configuration was propelled to new altitude and speed (17,943 statute miles per hour) records. Hatch opened third time for 2 hours 10 minutes standup EVA during which scheduled photography was accomplished. Two spacecraft undocked and station keeping by use of 100 feet nylon tether exercised with a slow spin rate imparted to the tethered combination. After separation of the tether, a second rendezvous with GATV was conducted from 25 mile separation. Reentry sequence was fully automatic for the first time with impact 2.9 miles from the aiming point. Ten of eleven scheduled experiments were conducted as planned, power tool evaluation canceled due to shortened umbilical EVA. Duration—71 hours, 17 minutes.

Launch date: November 11, 1966.

Designation: Gemini XII.

Crew: James A. Lovell, Jr., and Edwin E. Aldrin, Jr.

Remarks: GATV-Atlas booster combination launched 1 hour 38 minutes before Gemini spacecraft launched into orbit by modified Titan II booster. Rendezvous accomplished in third orbit of 59-revolution flight with docking 4 hours 14 minutes after Gemini launch. Scheduled boost of docked Gemini-GATV combination into higher orbit canceled due to pressure fluctuations in GATV primary propulsion system. The docked combination was maneuvered to obtain photographs of solar eclipse during the 10th revolution. Two standup EVA periods, on first and third days, totaled 3 hours 34 minutes. On second day, Aldrin conducted 2 hours 6 minutes umbilical EVA, testing restraint devices to overcome body positioning problems experienced on prior flights. Resting frequently, Aldrin utilized portable hand rails, foot restraints, and various tethers. He completed 19 tasks, demonstrating useful EVA work was feasible with proper planning and restraint devices. Gemini and GATV spacecraft undocked, remaining joined by 100 foot tether for station keeping and gravity gradient stabilization experiment. Fourteen experiments conducted. Automatic reentry sequence used for second time. Duration—94 hours, 35 minutes.

APPENDIX B

SCRIPT FOR THE 12 GEMINI

(16-mm. color-sound motion picture)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Gemini III was the first manned Gemini to be launched. It had been preceded by two earlier unmanned test flights.

Ten manned test flights would tackle six objectives. The program would—

- Investigate long-duration flight;
- Develop rendezvous techniques and postdocking maneuvers;