

cision can be made, at which point end-item and interface specifications will be prepared for full scale development of the selected system. This decision would be made by 1968. Integrated systems development and test would be accomplished during 1968 and 1969 with first flight system available in 1970.

Increased astronaut accommodations

The reduced landing accelerations resulting from the land landing system minimize current crew seat requirements resulting in more useable volume in the Command Module. This will permit removal of existing couches and replacement with storable light-weight net couches, making the provision for carrying 4 to 6 astronauts for short duration ferry missions (fig. 86, ML67-6005). It further provides more crew volume for experimentation and other mission required operations. Studies are currently being conducted on refurbishment and reuse of Apollo Command Modules. Soft land landing recovery and reuse provides potential savings in refurbishment costs over that of water recovered spacecraft because of the noncorrosive land environments.

Life sciences experiments

Using the long duration follow-on missions in Apollo Applications, observations and experiments can be made to test man's behavior and his reactions to the spacecraft environment over long periods of time. Apollo Applications may not only permit extending man's time in space, but provide the capability for including trained medical observers on the mission and for investigating several means of therapy to counteract possible adverse effects of space flight.

Weightlessness

The effects of weightlessness on the cardiovascular and musculoskeletal systems are major areas of interest. No potential problems have been identified to date, even though blood pooling in the legs, dizziness, or a loss of calcium from the system had been anticipated as problems prior to the 14-day Gemini VII mission. Such symptoms could result from longer time exposure. It is therefore planned to carry out a well controlled series of medical experiments. For

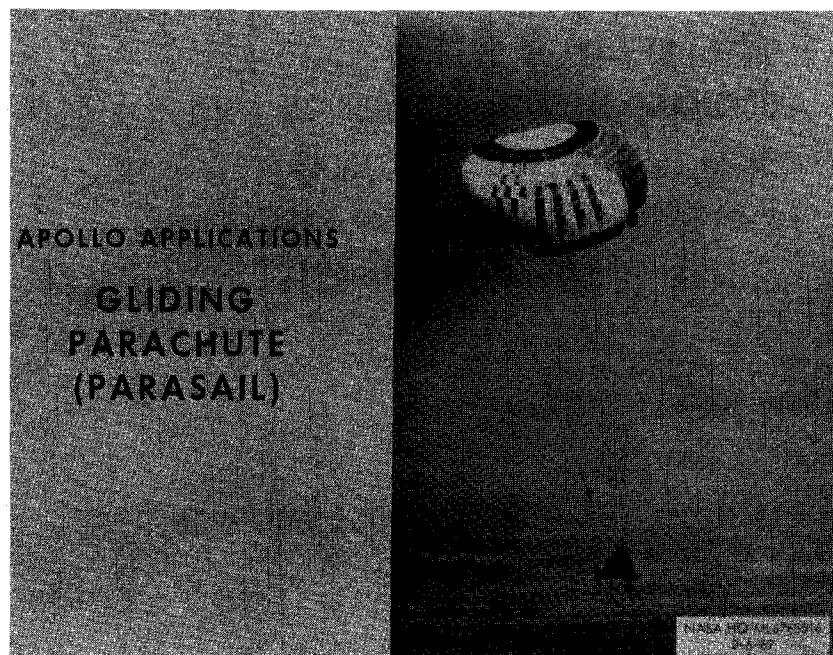


FIGURE 85