

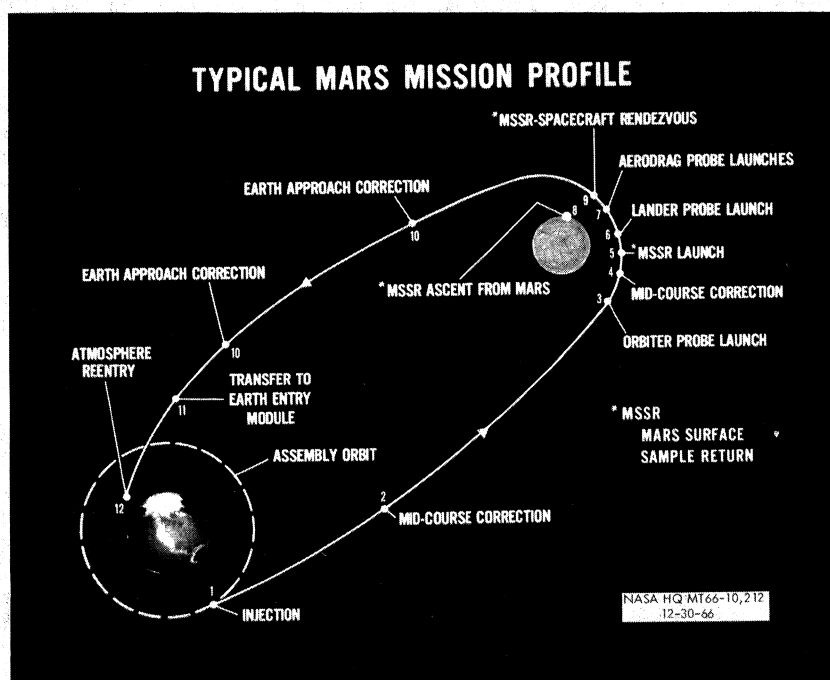


FIGURE 116

The principal scientific probe is the Mars Surface Sample Return probe. In addition, the payload could include orbiters, geological landers, and aerodrag impact probes. The Surface Sample Return probe gathers surface and atmosphere samples, and takes pictures. Upon completion of the sample gathering, the samples and film are launched with a return vehicle to rendezvous with the manned reconnaissance spacecraft. On the return leg of the trip, portions of the Mars samples and other reconnaissance data are analyzed and the significant results transmitted to earth.

Some days prior to earth encounter, the crew will transfer into the Earth Entry Module to perform final checkout, adjustment and stowage operations. The module is then separated from the interplanetary spacecraft and proceeds toward its atmospheric entry to earth. Landing and recovery are made on either land or sea at a location predictable well in advance.

We have studied a number of alternative flight systems to establish technical soundness of the mission concept as described in this presentation. Our studies have firmly established the potential scientific contributions, as well as the apparent feasibility of the manned mission concept.

Perhaps, at this time, I should present in condensed format the significant results which are to be gained from a Manned Mars/Venus reconnaissance mission. Such a summary of results is provided by these two charts (fig. 117, MT66-10,203; fig. 118, MT66-10,202).

I have tried to establish that, in the design of the flight system, we have leaned heavily on the concept of utilization and/or modification of present systems. This chart (fig. 119, MT66-6708) summarizes the major components of the mission and their development base. Also indicated are the technology extensions required. Let me make it clear that no major engineering break-