

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems (4)

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CONCEPTUAL STUDY OF JAPANESE MANNED MISSION WITH CREW ESCAPE SYSTEM

Abstract

Mitsubishi Heavy Industries, Ltd. (MHI) and the Japan Aerospace Exploration Agency (JAXA) marked the ninth successive successful launch of H-IIA and are developing H-IIB for the launch of H-II transfer vehicle (HTV), which supports logistics transportation to ISS. Recently, to prepare launch solution for future launch market which would become much more competitive than today, we have conducted conceptual study on next primary launch system by utilizing our technological capabilities that we have acquired from the development of H-IIA and H-IIB. The key features and crucial technologies for next primary launch system are short operation responsiveness, cost saving and reducing delta-V of satellites. In view of growing world wide interest for manned lunar mission, MHI has started to prepare domestic solution for manned transportation to space. To achieve the technology necessary for manned mission, we have to evolve the H-IIA and H-IIB with high reliability and safety. In this paper, we introduce some results of our conceptual study to man-rate H-IIA/H-IIB heritage. Specifically, the concept of Crew Escape System (CES) is outlined, that can support crew survivability against all risks clarified through intensive review of our H-IIA/H-IIB system.