

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)  
Launch Vehicles in Service or in Development (1)

Author: Mr. Keitaro Ishikawa  
Mitsubishi Heavy Industries Ltd. Japan, Japan, keitaro\_ishikawa@mhi.co.jp

DEVELOPMENT RESULTS OF H-IIB PROPULSION SYSTEM

**Abstract**

H-IIB launch vehicle is an enhanced version of H-IIA. H-IIB will launch H-II Transfer Vehicle(HTV) to the ISS, and will satisfy various customer needs to launch single and multi payloads.

After the critical designing phase and many system tests, we are now addressing the final verification of H-IIB. Then we will make its maiden flight at September, 2009. In this paper, we introduce the latest H-IIB development results, especially CFT(Captive Firing Test) and GTV(Ground Test Vehicle).

At CFT, we conducted a final verification of 1st stage propulsion system using flight vehicle and examined a consistency of interface between vehicle and ground equipment. At the GTV, we made a full-dress rehearsal of full launch campaign and final check of the consistency between vehicle and ground equipment. Finally, we will introduce the result of maiden flight.

<Introduction>

Japan's H-IIA launch vehicle has been developed well balanced in payload capability, reliability, practicality, safety and cost. It has achieved fourteen successes. To satisfy various customer needs to launch dual payload for lower launch cost and to launch HTV(H-II transfer vehicle), the H-IIB launch vehicle has been developed from 2004.

<features of H-IIB rocket>

The feature of H-IIB rocket is as follows:

1. Enlargement of the 1st stage diameter (4m Dia to 5.2m Dia)
2. Clustering of the 1st stage engines(LE-7A engine x 1 to LE-7A x 2)
3. Modification of ground equipment

The feature worthy of special mention is clustering the liquid engines,LE-7A which already had been developed and used as H-IIA's main engine