

SPACE PROPULSION SYMPOSIUM (C4)  
Propulsion Systems I (1)

Author: Mr. Ping LI  
Xi'an Aerospace Propulsion Institute, China, lipg2000@163.com

Dr. Bin LI  
Academy of Aerospace Propulsion Technology, China Aerospace Science and Technology Corporation  
(CASC), China, lipg2000@163.com

A PREVIEW OF LAUNCH VEHICLE ARCHITECTURES AND PROPULSION SYSTEMS FOR  
HEAVY LIFT LV IN CHINA**Abstract**

This paper provides a survey of possible launch vehicle architectures and propulsion systems for future Chinese heavy lift launch vehicle. The survey covers three aspects: a discussion of four typical launch vehicle architectures, the current development status of propulsion systems in China, and suggestions on future development strategy of Chinese aerospace propulsion technology. The discussion of four typical launch vehicle architectures, which differ from each other by their propulsion system, focused on their advantages and disadvantages according to the cost, performance, manufacture and their feasibility to future super heavy lift LV. The current Chinese development program of propulsion systems, especially the new generation LOX/kerosene engine YF-100 and LOX/LH2 engine YF-77, as well as the planned CZ-5 and CZ-7 launch vehicles were presented. Also, the technology readiness level of current propulsion systems for the launch of 100t LEO payload was assessed. Finally, an upgrading strategic framework of China aerospace propulsion technology was suggested. According to this strategy, programs of development of 3000kN LOX/kerosene engine, 6000kN LOX/kerosene engine with two thrust chambers, and 2000kN LOX/LH2 engine were proposed. These programs have been initiated under the support of the government.