

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Heavy Lift Launchers Capabilities and New Missions (8)

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UNITED LAUNCH ALLIANCE – HISTORIC LAUNCH OF THE FIRST DELTA IV HEAVY FROM
THE WEST COAST

Abstract

On 20 January, 2010, for the first time in history, a Delta IV Heavy lifted off from Space Launch Complex-6 at Vandenberg Air Force Base, Calif., and successfully placed the payload into its required orbit for ULA's valued customers. This event established Heavy Lift launch capability from the West Coast.

In order to achieve a successful inaugural launch, an exhaustive series of integrated system tests and check-outs were performed, including the cryo-loading the fuel and oxidizer tanks in both the first and second stages, and the final Integrated System Test (IST).

In addition, there was significant effort required to modify and test the launch system in order to establish West Coast Heavy lift capability for the nation. The modifications included upgrades to the propellant loading system, the helium and GN2 supply system, and the environmental control system. There was also significant effort and focus required to modify the pad and vehicle to meet the mission unique requirements to support the mission.

The Heavy Launch Vehicle produced by United Launch Alliance has the highest mass-to-orbit performance capability of any available US Expendable Launch Vehicle. This paper summarizes the critical events of the launch campaign on the day of launch, the inaugural flight profile, post-flight data reconstruction and closure of flight observations.