

SPACE PROPULSION SYMPOSIUM (C4)
Propulsion System (1) (1)

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MAIN DIRECTIONS OF THE PNEUDRAULIC SYSTEMS PROGRESS OF CONTEMPORARY
LAUNCH VEHICLES

Abstract

Pneumatic hydraulic propellant feed systems (PPFS) of contemporary launch vehicles (LV) are multi-functional systems, inclusive a large number of control units, and characterizing by complicated numerous physical processes. On the example of Yuzhnoye Design Office experience it is showed the PPFS evolution in process which on each, newly developed, product (LV) these systems had its unique, distinguishing character. It is analyzed of the some primary PPFS subsystems progress such as propellant tanks pressurization systems, gas-reactive systems of stages/payloads separation and others. It has been showed a past history how (on the base of contemporary requirements) new systems are appeared in the PPFS structure. These systems involved for oneself to development of wide variety new control units, structures of propellant systems and their elements At the same time, it has been considered methods providing high efficiency and reliability of the PPFS of contemporary LV's in conditions of severe commercial competition and under minimal cost expenditures