

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

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CYCLONE-4 LAUNCH VEHICLE III STAGE ENGINE. GROUND TESTING RESULTS

**Abstract**

Current material is the addendum to the earlier presented in the report of International Astronautical Congress 2010 and 2013 information about ground tests of RD861K Liquid Rocket Engine destined for installation into the Cyclone-4 LV third stage. The report presents results of decisions at followed basic questions: choice of nozzle extension material; modernizations of mixture ratio flow regulation system for 1 assurances of needed natural frequency of engine elastic suspension; assessments of engine vibration strength; stabilities of operations in combustion chamber and gas generator; assurance of required engine life. Information is given on further plans to finish the engine ground testing and to prepare the ground fire tests in composition of the stage propulsion system.