

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

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PROGRESS SUMMARY OF ENGINEERING MODEL FIRING TESTS IN LE-9 ENGINE
DEVELOPMENT**Abstract**

Development of Japanese new booster engine LE-9 has started since 2014 as one of key components of H3 Launch Vehicle which will be Japanese next flagship launch vehicle and of which the first test flight is scheduled for 2020. Some of key features of LE-9 engine were demonstrated through LE-X engine program (2008-2014). An expander bleed cycle is adopted for its engine cycle to meet three key concepts of H3 Launch vehicle; reliability, affordability, and performance. LE-9 engine has currently been developed for Engineering Model tests (-2018), which are composed of three series. The first test series is planned to be started from the end of this March mainly to confirm the feasibility of LE-9 engine system at the nominal operating condition. In the second series, it will be demonstrated that the development can be moved to Qualification Test phase through performing long duration tests partly outside of Qualification Test operating range. The feasibility of the system adopting several configuration changes for cost reduction will be verified in the last series. Qualification Test phase following Engineering Model test phase will be completed by 2020. In this paper, the results of the first series Engineering Model test and future plan will be summarized and discussed.