



## Failure Analysis of Space Shuttle Orbiter Valve Poppet (Paperback)

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By Rick Russell

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The poppet failed during STS-126 due to fatigue cracking that most likely was initiated during MDC ground-testing. This failure ultimately led to the discovery that the cracking problem was a generic issue effecting numerous poppets throughout the Shuttle program s history. This presentation has focused on the laboratory analysis of the failed hardware, but this analysis was only one aspect of a comprehensive failure investigation. One critical aspect of the overall investigation was modeling of the fluid flow through this valve to determine the possible sources of cyclic loading. This work has led to the conclusion that the poppets are failing due to flow-induced vibration.



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