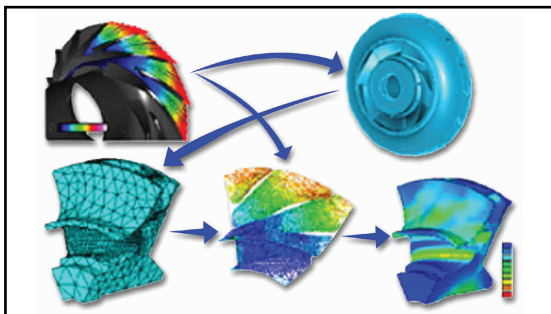


RS-84 Engine

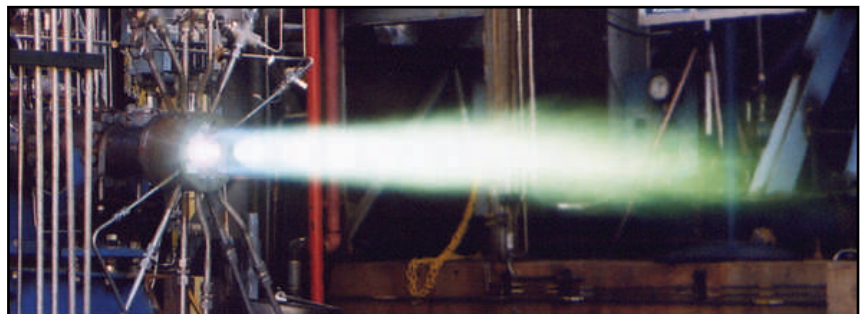
RS-84 Engine

Overview:

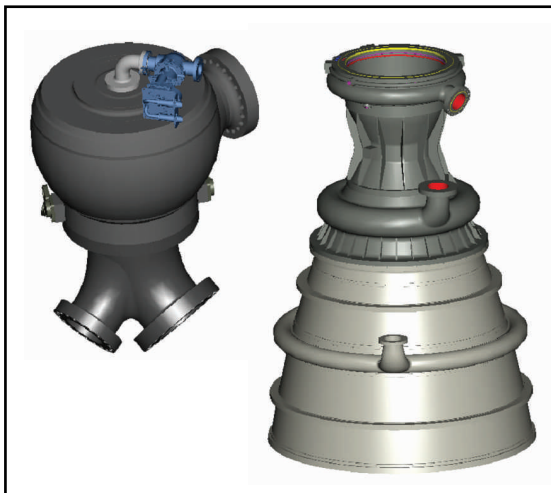
The RS-84 is the first reusable hydrocarbon staged combustion liquid rocket engine. This engine is being developed to meet NASA's crew safety goals with a highly reliable and low cost main engine as a part of the NASA Space Launch Initiative program for the next generation reusable launch system. The NASA-MSFC and Rocketdyne team brings over 50 years of successful rocket engine development experience to meet the challenges of this new program. This team's extensive design database has been anchored with almost five decades of hydrocarbon rocket engine development and flight operations experience including Delta, Atlas, and Saturn vehicles and nearly three decades of successfully operating the world's only reusable pump-fed rocket engine, the Space Shuttle Main Engine. The team also fully benefits from the proven and experienced engineering staffs that recently completed the successful MC-1 "FASTRAC", XRS-2200, and RS-68 engine development programs and the ongoing IPD and RS-76 technology development. Advances in integrated parametric design and analysis tools, advanced materials knowledge base, and state-of-the-art fabrication processes anchored and refined during the recent engine development programs are already being used by the team to design this engine.



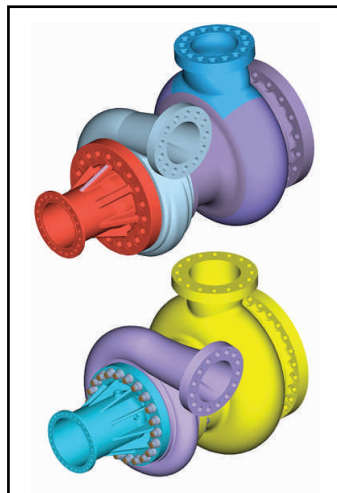
Advanced Integrated Design Tools enable more rigorous optimization in reduced cycle time



RS-84 Main Injector single element testing reduces the technical risk



Superior combustion devices designed for safety, dependability, and long life



Advanced Turbomachinery designed for high reliability, maintainability, and operability

RS-84 Prototype Specifications

Propellants:	LOX/RP-1
Thrust, Sea Level:	1,064 Klbf
Thrust, Vacuum:	1,130 Klbf
Specific Impulse:	324 sec vac
Chamber Pressure:	2,800 psia
Mixture Ratio:	2.7
Area Ratio:	20
Life:	100 missions
Throttling:	65 - 100% thrust