

NEWS FROM



12-67
ROCKETDYNE

A DIVISION OF NORTH AMERICAN ROCKWELL CORPORATION
6633 CANOGA AVENUE, CANOGA PARK, CALIFORNIA 91304
FOR PRESS INFORMATION: 213/884-2213 884-7514

IX, 4
DATA SHEET
F-1 ROCKET ENGINE

SATURN HISTORY DOCUMENT
University of Alabama Research Institute
History of Science & Technology Group

Date _____ Doc. No. _____

FUNCTION: Cluster of five provides 7.5 million pounds of thrust for Saturn V first stage, launching Apollo 4.

THRUST: 1,500,000 pounds.

SPECIFIC IMPULSE: 260 seconds (minimum).

PROPELLANTS: RP-1 (fuel) and Liquid Oxygen (oxidizer).

COMPONENTS:

Thrust Chamber: Tubular wall, regeneratively cooled; uncooled extension, double inlet oxidizer dome, injector.

Propellant Supply: Direct-drive turbopump capable of moving three tons of propellant per second. Develops 60,000 hp, weight - 2800 lbs., length - 5 feet, diameter - 4 feet.

Turbopump Drive: Gas generator combustion chamber burning main propellants.

DIMENSIONS: With nozzle extension---19 feet long and 12 feet 4 inches in diameter.

HISTORY:

Feasibility studies began in 1955.
Contract with NASA signed January, 1959.
Record thrust of 1.64 million pounds of thrust sustained for 13 seconds in thrust chamber test, April 6, 1961.
First complete engine tested June 13, 1961.
First engine test at full thrust for approximate flight duration of two and one-half minutes, May 26, 1962.
First production non-flight engine delivered Oct. 30, 1963.
First production flight engine delivered October, 1964.
First Rating Tests completed Dec. 16, 1964.
Completed qualification tests for manned flights on Sept. 6, 1966.
More than 2300 tests of the complete F-1 engine have been conducted.
First flight of Saturn V made Nov. 9, 1967.

###

