



## Launch Operations Directorate

# Fact Sheet

### Juno II

The Juno II vehicles were developed and all launches were conducted by a team of personnel now associated with the George C. Marshall Space Flight Center.

The Juno II was basically a JUPITER missile with extended tankage to increase burning time. Other changes included a modified guidance system and the addition of upper stages to form a four-stage vehicle. During the powered portion of first stage flight, pitch and yaw control was accomplished by swiveling the gimbaled rocket engine. The roll was controlled by a movable turbine exhaust nozzle.

#### Specifications:

Length	72 Feet
Diameter	8 3/4 Feet
Dry Weight	10,800 Pounds
Thrust	150,000 Pounds
Propellants	
Oxidizer	Liquid Oxygen
Fuel	RP-1

The three stages of the JUNO II were covered with a shroud for protection against aerodynamic heating during the powered portion of the first stage flight. The upper stages were clustered solid propellant rockets with 11 rockets placed in a ring formation making up the second stage. Inserted into the center of this ring was a cluster of 3 rockets making up the third stage. The fourth stage consisted of a single rocket with the payload resting on top. This configuration of shroud, upper stages, and the payload was set spinning and after shroud separation, the stages were fired in succession to attain the necessary speed for orbiting the payload.

Successful JUNO II launchings included the following: PIONEER III on December 6, 1958, PIONEER IV on March 3, 1959, and EXPLORER VII on October 13, 1959.



Satellite and Upper Stages

Modified Jupiter

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