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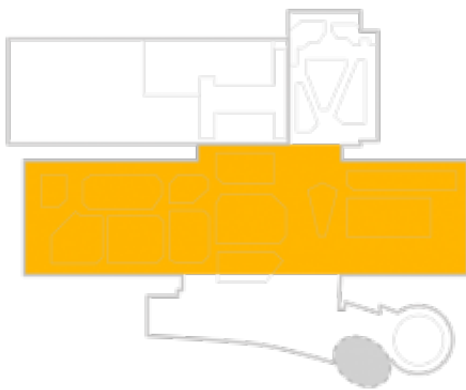
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Pratt & Whitney J58 (JT11D-20) Turbojet Engine

Display Status:

This object is on display in the Boeing Aviation Hangar at the Steven F. Udvar-Hazy Center in Chantilly, VA.



Pratt & Whitney designed this engine for continuous operation at high Mach number flight with compressor inlet temperatures above 400 degrees C (750 degrees F). Development began about 1958, and production began in 1964.

The J58 had a single-shaft rotor design, with an 8.8:1 pressure ratio compressor, which incorporated a unique compressor bleed bypass at high Mach number. When opened, bypass valves bled air from the fourth stage, and six ducts routed it around the compressor rear stages, combustor, and turbine. The bleed air re-entered the turbine exhaust around the front of the afterburner where it was used for increased thrust and

cooling. The main fuel control scheduled transition to bypass operation as a function of compressor inlet temperature and engine speed. For extreme high-altitude and high-speed environment operation, the engine required special fuel and oil.

Two J58 engines powered each Lockheed A-12 and YF-12 interceptor, and the SR-71 Blackbird reconnaissance and SR-71B trainer aircraft.

Data Source

National Air and Space Museum

Manufacturer

[Pratt & Whitney](#)

Credit Line

Transferred from the U.S. Air Force, Norton AFB, California

Materials

Aluminum, Ceramic, Inconel, Plastic, Steel

Dimensions

Overall: 8690 lb. (3941.8kg)

Other: 180 x 50in. (457.2 x 127cm)

Overall: 203.2 x 609.6cm (6 ft. 8 in. x 20 ft.)

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Country of Origin

United States of America

UNITED STATES OF AMERICA

Date

Circa 1965

Physical Description

Type: Turbojet, afterburner

Thrust: 133,440 N (30,000 lb)

Compressor: 8-stage axial

Combustor: Cannular

Turbine: 2-stage

Weight: 2,948 kg (6,500 lb)

Type

PROPULSION-Turbines (Jet)

Inventory Number

A19920006000

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OBJECT

**Messerschmitt Bf 109 G-
6/R3**



OBJECT

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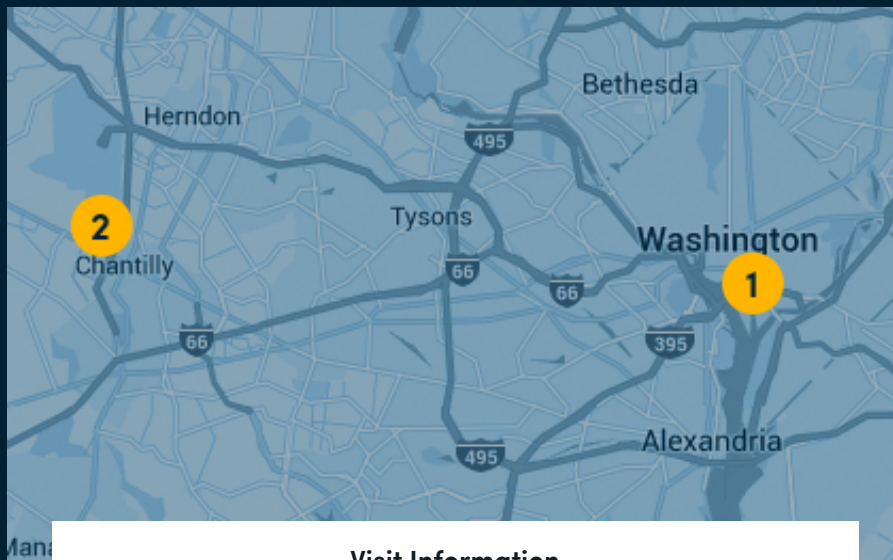
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