Pratt & Whitney's JT9D

Pratt & Whitney's JT9D opened a new era in commercial aviation: the high-bypass ratio engine to power wide-body aircraft. It introduced many advanced technologies in structures, aerodynamics and materials to improve fuel efficiency and reliability.

Since entering service on the Boeing 747 in 1970, the JT9D has proven itself to be the workhorse for early 747, 767, A300, A310 and DC-10 aircraft models with over 3,000 cumulative engines delivered. The JT9D has flown more than 169 million total hours to date. Each day, more than 600 aircraft takeoffs are accomplished using JT9D power.

The JT9D-7R4 model, introduced in 1982 and built on the earlier successes of the engine, features enhanced performance. For twinjets, JT9D engines are approved for 180-minute ETOPS.

Although production ended in 1990, Pratt & Whitney is working with airlines to maintain every aspect of the JT9D’s viability. With our commitment to the JT9D program, these engines will serve commercial aviation well into the new millennium in the 45,000-56,000 lb thrust range.

**Engine Characteristics**

- Fan tip diameter: 93.4 inches
- Length, flange to flange: 132.7 inches
- Takeoff thrust: 48,000 - 56,000 pounds
- Flat rated temperature: 86 degrees F
- Bypass ratio: 4.8-to-1
- Overall pressure ratio: 26.7
- Fan pressure ratio: 1.67

**Program Milestones**

- September 1965 - Program launch
- December 1966 - First engine test
- May 1969 - FAA certification
- January 1970 - Entry into service
- September 1982 - JT9D-7R4 service entry
June 1985 - JT9D-7R4 180-minute ETOPS approval

**Engine Models**
JT9D-7  
JT9D-7Q  
JT9D-7R4

**Airplanes Powered**
Boeing 747  
Boeing 767  
Airbus A300  
Airbus A310  
McDonnell Douglas DC-10