

## KC-135A Stratotanker - 1958

### United States

Type: Tanker (Air Refueling)

Min Speed: 230 kt

Max Speed: 520 kt

Commissioned: 1958

Length: 41.5 m

Wingspan: 39.9 m

Height: 12.7 m

Crew: 4

Empty Weight: 47216 kg

Max Weight: 136800 kg

Max Payload: 0 kg

Propulsion: 4x J57-P-59W



Sensors / EW: - AN/APN-59 - Radar, Radar, Weather and Navigation, Max range: 74.1 km

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**OVERVIEW:** The Boeing KC-135 Stratotanker is a military aerial refueling aircraft. It and the Boeing 707 airliner were developed from the Boeing 367-80 prototype. The KC-135 was the US Air Force's first jet-powered refueling tanker and replaced the KC-97 Stratotanker. The KC-135 was initially tasked to refuel strategic bombers, but was used extensively in the Vietnam War and later conflicts such as Operation Desert Storm to extend the range and endurance of US tactical fighters and bombers.

The KC-135 entered service with the United States Air Force (USAF) in 1957; it is one of six military fixed-wing aircraft with over 50 years of continuous service with its original operator. The KC-135 is supplemented by the larger KC-10. Despite increased maintenance costs, studies conclude many of the aircraft could be flown until 2040. The aircraft will eventually be replaced by the Boeing KC-46 Pegasus.

**DETAILS:** The KC-135R has four turbofan engines, mounted under 35-degree swept wings, which power it to takeoffs at gross weights up to 322,500 pounds (146,300 kg). Nearly all internal fuel can be pumped through the tanker's flying boom, the KC-135's primary fuel transfer method. A special shuttlecock-shaped drogue, attached to and trailing behind the flying boom, may be used to refuel aircraft fitted with probes. A boom operator stationed in the rear of the aircraft controls the boom while lying prone. A cargo deck above the refueling system can hold a mixed load of passengers and cargo. Depending on fuel storage configuration, the KC-135 can carry up to 83,000 pounds (38,000 kg) of cargo.

All KC-135s were originally equipped with Pratt & Whitney J-57-P-59W turbojet engines which produced 10,000 lbf (44 kN) of thrust dry, and approximately 13,000 lbf (58 kN) of thrust wet. Wet thrust is achieved through the use of water injection on takeoff.

In the 1980s the first modification program re-engined 157 Air Force Reserve (AFRES) and Air National Guard (ANG)

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tankers with the Pratt & Whitney TF-33-PW-102 engines from 707 airliners retired in the late 1970s and early 1980s. The re-engined tanker, designated the KC-135E, was 14% more fuel efficient than the KC-135A and could offload 20% more fuel on long duration flights.

The second modification program re-engined 500 aircraft with new CFM International CFM56 (military designation: F108) engines produced by General Electric and Snecma. The CFM-56 turbofans are capable of producing approximately 22,500 lbf (100 kN) of thrust, nearly a 100% increase in thrust compared to the original J-57 engines. The re-engined tanker, designated either the KC-135R (modified KC-135A or E) or KC-135T (modified KC-135Q), can offload up to 50% more fuel (on a long duration sortie), is 25% more fuel efficient, costs 25% less to operate and is 96% quieter than the KC-135A. The KC-135R's operational range is 60% greater than the KC-135E for comparable fuel offloads, providing a wider range of basing options.

SPECIFICATIONS (R Model): Crew: three: pilot, co-pilot and boom operator || Length: 136 ft 3 in (41.53 m) || Wingspan: 130 ft 10 in (39.88 m) || Height: 41 ft 8 in (12.70 m) || Max. takeoff weight: 322,500 lb (146,000 kg) || Powerplant: (4) CFM International CFM56 (F108-CF-100) turbofan || Thrust: 21,634 lbf (96.2 kN) each || Maximum Fuel Load: 200,000 lb (90,719 kg).

PERFORMANCE: Max Speed: 580 mph (933 km/h) || Range: 1,500 mi (2,419 km) with 150,000 lb (68,039 kg) of transfer fuel || Service ceiling: 50,000 ft (15,200 m) || Rate of climb: 4,900 ft/min (1,490 m/min).

SOURCE: [SCO] Wikipedia <http://en.wikipedia.org>