



Flight

- The 747 fleet has logged more than 35 billion statute miles (56 billion km) - enough to make 74,000 trips to the moon and back. (1)
- The 747 fleet has flown 3.5 billion people - the equivalent of more than half of the world's population. (2)
- The 747-400ER range is approximately 7,720 statute miles (14,297 km).
- A 747-400 typically takes off at 180 mph (290 km/h), cruises at 565 mph (910 km/h) and lands at 160 mph (260 km/h). (3)
- For a typical international flight, one 747 operator uses about 5.5 tons (5,000 kg) of food supplies and more than 50,000 in-flight service items.

Engines

- Engine thrust has grown from 43,500 pounds (19,730 kg) per engine on the early 747s to as much as 63,300 pounds (28,710 kg) on the current model.
- The diameter of the 747 engine cowling is 8 feet 6 inches (2.6 m).

Fuel

- The 747-400ER can carry more than 63,500 gallons of fuel (240,370 L), making it possible to fly extremely long routes, such as Los Angeles to Melbourne, Australia. (4)
- A 747-400 that flies 3,500 statute miles (5,630 km) and carries 126,000 pounds (56,700 kg) of fuel will consume an average of five gallons (19 L) per mile. (5)
- The 747-400 carries 3,300 gallons (12,490 L) of fuel in the horizontal (tail) stabilizer, allowing it to fly an additional 350 nautical miles.

Da (3 e 4) : Durata tratta di 5630 km = 6,19 h

Consumo totale su tratta di 5630 km = 66500 l

peso specifico del kerosene $\rho_k = 8840 \text{ N/m}^3 \Rightarrow$ Consumo totale su 5630 km = 59986 kg

Consumo orario : 9690 Kg/h; Consumo orario per motore : 2423 Kg/(h * motore)

CON UNA RIDUZIONE DEL CONSUMO DELL'1%

Risparmio orario di combustibile = 96,9 kg/h

Risparmio di combustibile sulla tratta di 5630 km = 599,8 kg

IL PESO DI COMBUSTIBILE IN MENO EQUIVALE A UN MAGGIOR CARICO PAGANTE DI 5-6 PASSEGGERI, SI HA QUINDI

Maggiore introito (tutto guadagno) sulla tratta di 5630 km = 2000 € - 4000 €

Maggiore utile annuo del velivolo (250 gg) = 500000 € - 1000000 € (circa 1 Mld - 2 Mld)

TENENDO CONTO DI (1)

Maggiore utile complessivo del modello 747 = 19,89 Mld € 39,79 Mld €