

## Qantas straps a fifth engine on to a jumbo

A QF63 from Sydney to Johannesburg took off with an extra passenger on board - a 10 tonne Rolls Royce engine. With its four powerful engines and distinctive upper deck, the Boeing 747 is instantly recognisable wherever it flies.



What you might not know is that the 747 has the ability to carry a fifth engine, fitted between the body of the aircraft and the inner-most engine on the port (left) side of the aircraft.

The extra engine isn't powered up for the flight - they're essentially ferrying across a very large spare part from the engineering HQ in Sydney so it can be fitted to one of the other Boeing 747s in Johannesburg. Qantas is undertaking this rare task to get customers and their aircraft on their way as quickly as possible - rather than shipping the engine across by boat or chartering a freighter aircraft.

### How is a 747 able to carry a spare engine?

The wing of the aircraft is fitted with anchor points, which allows a supporting strut to be attached under the wing. The strut is fitted with a winching mechanism so the engine can be hoisted up and secured safely for its journey. The fifth engine adds extra weight and drag to the aircraft, meaning the flight had to make a quick refuelling stop in Perth.

Additional drag is caused by air travelling around the spare engine during flight and, to counterbalance this, the pilots are trained to use the flight controls to ensure the aircraft flies straight, level and safely. Once QF63 has landed in Johannesburg - it's simply a matter of removing the fifth engine and then putting it onto the aircraft that will operate QF64 to Sydney.



The 747 has been an integral part of the Qantas fleet since the 1970s. They pioneered the carriage of a fifth engine with Boeing 707s back at the dawn of the jet age to save shipping costs. The last time Qantas carried an engine like this was in 2011.

And what about the spare engine that was removed in Johannesburg? It will be sent home by boat - a much longer journey than by air as an extra passenger under the wing to Sydney. At the maintenance base in Sydney millions of spare parts are held, ranging from the smallest screws, seat cushions, to 747 engines.

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