



GULFSTREAM G550

Typical operational cost over a year

The Gulfstream G550 is a heavy, long range business jet that received its FAA type certificate in 2003. It is sometimes also known as the GV-SP. Over 550 have been produced, including the Gulfstream G500 which has a lower fuel capacity and reduced range. The G550 replaced the Gulfstream V, and has improved aerodynamics leading to an increased range and fuel efficiency. It is the most successful model in Gulfstream history.

Depending on its configuration, the G550 can transport up to 19 passengers or can have sleeping for 8 people. There are options to have up to four distinct living areas, including a dedicated crew rest area, a private stateroom, conference area and entertainment space

The cabin has 14 Gulfstream signature oval windows, providing plenty of natural light along its 43 ft 11 in (13.39m) length, and the low-altitude cabin pressure helps to keep passengers refreshed during their journey. The cabin height is 6 ft 2 in and the width is 7 ft 4 in, while there is 170 cu ft (4.81 cu m) of baggage space.

Specs

With a top speed of mach 0.885, and a high speed cruise of mach 0.85, the G550 has set more than 50 city-pair speed records. It can fly 6,750 nautical miles (12,501 kilometres) nonstop, meaning city pairs such as Shanghai to Los Angeles, New York to Dubai or London to Tokyo or to Los Angeles are all possible.

The plane is powered by two Rolls-Royce BR710 C4-11 engines, while the cockpit has a PlaneView flight deck with a Head-Up Display (HUD) and Enhanced Vision System (EVS) to improve the pilot's situational awareness.

The take-off distance (MTOW) is 5,910 ft (1,801 m) and the landing distance (MLW) is 2,770 ft (844 m).

Acquisition Prices

The list price of a new G550 is currently about \$61.5m depending on the configuration, and it's worth negotiating for discounts from this list pricing. Average asking prices for one built in 2005-2006, is in the range \$18m to \$21m. Newer models that are 5 to 6 years old, 2012 to 2013 vintage, are typically in the range of \$28m to \$31m. Prices on preowned G550s vary depending on the total airframe and engine hours, maintenance, record keeping and overall condition.

Operating Cost Summaries

The table below shows the "Direct Mission Costs" for typical missions of 1,000 nm, 3,000 nm and 6,000 nm. Of particular note, the fuel consumption varies significantly between take-off and cruise. On the other hand, longer missions require much more fuel on board, so take-off weight is much higher, requiring a higher fuel burn. The table includes a bundling of fuel consumed, maintenance labour, parts and reserve costs (Variable Costs), apportioned to the actual flight time for the mission length. The fuel price used for this analysis is based on an average price of \$5.00 per gallon, and the flights are assumed to have 8 passengers and 4 crew. The fuel consumption figure accounts for taxi, take-off, climb, cruise, descent, and landing.

Range	Flight Time	Cost	Cost per nm
Total Variable Costs (1,000nm mission)	2 hr 20 min	\$8,945	\$8.94
Total Variable Costs (3,000nm mission)	6 hr 42 min	\$25,252	\$8.42
Total Variable Costs (6,000nm mission)	13 hr 15 min	\$52,041	\$8.67

Annual Fixed Costs

These costs must be borne by a flight department irrespective of the level of aircraft utilization. Included in here are salaries for flight crew, annual training, hull insurance cost computed by multiplying a liability factor per \$100 of hull insurance; and liability insurance based on \$25m in coverage.

Item	Cost
Crew Salaries	\$363,625
Cabin Crew Salary	\$120,000
Director of Maintenance Salary	\$195,500
Crew Recurrent Training	\$79,420
Cabin Crew Recurrent Training	\$3,705
Director of Maintenance Recurrent Training	\$13,460
Hull Insurance	\$52,820
Liability Insurance	\$23,408
Hangar / Office	\$108,616
Total	\$960,554

The other fixed costs are for cockpit subscription services, which consist of the following items.

Item	Cost
Nav Database	\$58,311
EGPWS/TAWS Database	\$7,310
Flight Planning	\$13,580
Wx Services	\$1,463
Charts & Maps	\$2,560
Total Cockpit Costs	\$83,224

Variable Costs (Per Flight Hour)

These expenses are directly related to the operation of the aircraft and are represented as an hourly cost figure. Included are Fuel Expense, Maintenance Labour Expense, Parts Expense, Engine, Avionics and APU reserves expenses. The basis for the figures reported is actual operator experience. Parts, labour, and reserves are predicated on the assumption that the aircraft is no longer covered by the manufacturer's warranty.

The fuel costs assume a price per gallon of \$5.00 and an average fuel consumption of 358 gallons per hour.

Item	Cost
Fuel Expense	\$1,790
Airframe Sys. Parts & Labour	\$782
Engine Reserves	\$1,081
APU Reserves	\$52
Avionics Protection Program	\$130
Total	\$3,835

Annual Variable Costs

There are two sets of additional costs that vary based on usage, these are the "Annual Cabin Services Cost", shown below.

Item	Cost
Broadband	\$48,070
Sat TV	\$11,131
Cabin / Iridium Phone	\$2,947
Total Cabin Costs	\$62,148

And, the "Annual Trip Support Cost", which includes onboard catering, commercial flights for the flight crew, ground handling and landing/parking fees when the aircraft is away from its home airport.

Item	Cost
Catering Service	\$64,200
Flight Crew Travel	\$42,800
International Trip Support	\$32,100
Concierge	\$10,700
Ground Handling	\$21,400
Landing / Parking Fees	\$42,800
Total Other Trip Costs	\$214,400

Annual Costs Summary

Assuming that the aircraft is used for 400 hours per year, then the total annual costs of operation will be:

Item	Cost
Total Annual Fixed Costs	\$960,554
Total Annual Cockpit Subscription Services Costs	\$83,224
Total Owner Annual Variable Cost	\$1,534,000
Total Annual Cabin Services Costs	\$62,148
Total Annual Trip Support Costs	\$214,400
Grand Total Owner Flown Annual Expenses	\$2,854,326
Owner Cost per Flight Hour	\$7,135

In summary, the total annual cost for the G550 will be \$2,853,926 and the cost per flight hour, for the 400 hours the owner uses the aircraft, comes out to \$7,135.