

# ARCHIVED REPORT

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## Gulfstream G550

### Outlook

- Gulfstream delivered the final G550 slated for commercial use in mid-2021
- The G550 has been replaced by the G600 in the Gulfstream product line

### Orientation

**Description.** Twin-turboprop-powered, intercontinental-range, corporate/executive jet transport aircraft.

**Sponsor.** Gulfstream Aerospace Corp.

**Status.** Production of the G550 ended in June 2021.

**Total Produced.** Through 2021, Gulfstream produced an estimated 631 G500/G550s. The company also built 193 Gulfstream V (GV) models.

**Application.** Intercontinental executive/corporate transportation. Military applications include personnel transport, airborne early warning, and electronic countermeasures.

**Price Range.** G550, estimated at \$54.5 million in 2020 U.S. dollars.



Gulfstream G550

Source: Forecast International

**Gulfstream G550****Contractors****Prime**

<b>Gulfstream Aerospace Corp</b>	<a href="http://www.gulfstream.com">http://www.gulfstream.com</a> , 500 Gulfstream Rd, Savannah, GA 31408 United States, Tel: + 1 (912) 965-3000, Fax: + 1 (912) 965-3775, Prime
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**Subcontractor**

<b>Honeywell Aerospace, Business Aviation</b>	<a href="http://www.honeywell.com">http://www.honeywell.com</a> , 19019 N 59th Ave, Glendale, AZ 85308 United States, Tel: + 1 (602) 822-3000 (Primus Epic Avionics System)
<b>International Water Guard Industries Inc</b>	<a href="http://www.water.aero">http://www.water.aero</a> , Building 7, 15050 54A Ave, Surrey, British Columbia, Canada, Tel: + 1 (604) 255-5555, Fax: + 1 (604) 255-5685 (NPS-A6 Water Treatment Unit)
<b>Progressive Inc</b>	<a href="http://www.herouxdevtek.com">http://www.herouxdevtek.com</a> , 1030 Commercial Blvd N, Arlington, VA 76001 United States, Tel: + 1 (817) 465-3221, Fax: + 1 (817) 465-1289 (Aluminum Wing Ribs; Machined Components)
<b>Qarbon Aerospace</b>	<a href="http://qarbonaerospace.com">http://qarbonaerospace.com</a> , 300 Austin Blvd, Red Oak, TX 75154-4608 United States, Tel: + 1 (972) 935-5100 (Wing)
<b>Rolls-Royce Deutschland Ltd &amp; Co KG</b>	<a href="http://www.rolls-royce.com/deutschland">http://www.rolls-royce.com/deutschland</a> , Eschenweg 11, Dahlewitz, Germany, Tel: + 49 33 708 6 0, Fax: + 49 33 708 6 3000, Email: <a href="mailto:rrdinfo@rolls-royce.com">rrdinfo@rolls-royce.com</a> (BR710 Turbofan Engine)

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; [rich.pettibone@forecast1.com](mailto:rich.pettibone@forecast1.com)

**Technical Data****(G550)**

**Design Features.** The G550 was a cantilever low-wing monoplane with a cantilever T-tail. Retractable tricycle type landing gear were used on the aircraft, with twin wheels on each unit.

	<u>Metric</u>	<u>U.S.</u>
<b>Dimensions</b>		
Length	29.39 m	96.42 ft
Height	7.87 m	25.83 ft
Wingspan	28.50 m	93.50 ft
Cabin length	13.39 m	43.92 ft
Finished cabin width	2.13 m	7.0 ft
Finished cabin height	1.83 m	6.0 ft
Cabin volume	47.26 cu m	1,669 cu ft
<b>Weight</b>		
Basic operating weight	21,909 kg	48,300 lb
Maximum takeoff weight	41,277 kg	91,000 lb
Maximum landing weight	34,156 kg	75,300 lb
Maximum zero-fuel weight	24,721 kg	54,500 lb
Maximum payload	2,812 kg	6,200 lb

**Gulfstream G550**

	<u>Metric</u>	<u>U.S.</u>
<b>Performance</b>		
Mmo	Mach 0.885	Mach 0.885
Takeoff distance (SL, ISA, MTOW)	1,801 m	5,910 ft
Maximum cruise altitude	15,545 m	51,000 ft
Maximum range at Mach 0.80 with eight pax, four crew, and NBAA IFR reserves	12,501 km	6,750 nm

**Propulsion**

G550 (2) Rolls-Royce Deutschland BR710 turbofan engines rated 68.4 kN (15,385 lbt) each.

**Seating**

G550: Typical configuration is for 14-18 passengers (19 maximum), plus crew of two or three and a cabin attendant.

## Variants/Upgrades

**GV.** At the 1991 NBAA show, Gulfstream announced the Gulfstream V (GV). The new aircraft had a range of 6,500 nautical miles. Maximum takeoff weight was 41,051 kilograms (90,500 lb). The GV was powered by Rolls-Royce Deutschland BR710 turbofan engines, and had Honeywell avionics based on the Gulfstream IV's SPZ-8000 suite. First flight occurred in November 1995. U.S. Federal Aviation Administration (FAA) provisional certification was received in December 1996. Full certification was awarded in April 1997.

**GV-SP/G550.** Gulfstream launched an improved GV variant, called the Gulfstream V-SP (GV-SP), in October 2000. The company renamed the aircraft the G550 in 2002. The G550 had a range with eight passengers of 6,750 nautical miles at Mach 0.80. Range with eight passengers was 6,000 nautical miles at Mach 0.87.

The G550 was equipped with the PlaneView flight deck, which included the Honeywell Primus Epic avionics suite. Other standard equipment on the G550 included the Gulfstream/Kollsman Enhanced Vision System II (EVS II), L3Harris electronic standby instruments, the Gulfstream/Honeywell Visual Guidance System (VGS), and Gulfstream's cursor control device.

In the G550, drag was reduced by approximately two percent compared to the GV. Specific fuel consumption (SFC) was reduced by 1.5 percent. Empty weight had also been reduced.

The G550 had a 20 percent increase in usable cabin volume and a 25 percent increase in baggage space. A seventh window was added.

The GV-SP/G550 prototype, a modified GV, made its initial flight in August 2001. The initial production GV-SP/G550 made its first flight in July 2002.

The G550 received provisional type certification from the FAA in December 2002. Full type certification was awarded by the FAA in August 2003. Customer deliveries began the following month. The European Union Aviation Safety Agency (EASA) awarded type certification to the G550 in March 2004.

**G500.** The G500 was a reduced-specification version of the G550. Like the G550, it was equipped with BR710 engines and the PlaneView flight deck. Maximum range was 5,800 nautical miles.

The FAA awarded type certification to the G500 in December 2003. Initial delivery to a customer occurred in May 2004, when Gulfstream delivered a G500 to a California-based venture capitalist. In January 2005, the G500 received validation from EASA and the European Joint Aviation Authorities (JAA).

Customization was not available for the G500 as it is for the G550. Optional equipment for the G500 was sold only as part of already-defined option packages. Only a handful of G500s were ever produced.

Gulfstream currently uses the G500 designation for an unrelated, all-new aircraft launched in October 2014.

## Gulfstream G550

### Program Review

**Background.** Gulfstream launched the GV in September 1992. The initial GV was rolled out in September 1995, and first flight took place in November 1995. This aircraft was used for envelope expansion and FAA testing. During 1996, it was joined in flight testing by three additional GVs. One of these aircraft was used for systems evaluation, one for engine and environmental tests, and one for function and reliability tests. The latter aircraft, which was the fourth flight-test GV, was also the first production configuration airplane. It was eventually delivered to a customer. Gulfstream also produced one airframe for static testing. This airframe was later refurbished for use as a demonstrator aircraft.

The GV received provisional certification from the FAA in December 1996. By the end of that year, Gulfstream had delivered three green GVs to its Savannah, Georgia, completion center. Full type certification was awarded in April 1997.

#### *GV-SP Rebranded the G550*

Gulfstream announced in September 2002 an expansion and rebranding of its business jet product line. As part of this effort, a new GV derivative, previously called the GV-SP, became the G550, and a second new GV derivative, the G500, was introduced.

The 193rd and last GV rolled off the production line in December 2002. Production then transitioned to the G550 and G500.

**C-37.** In April 1997, the U.S. Air Force awarded a \$69.9 million contract to Gulfstream for two GVs. The aircraft received the designation C-37A. The service also took options on an additional four aircraft.

In March 1998, the Air Force purchased a third C-37A, for the U.S. Army. In early 1999, the Air Force exercised an option for a fourth C-37A. In addition, in

March 1999, the service awarded Gulfstream a \$77.3 million contract for a fifth and sixth C-37A. All six of these aircraft have been used to transport government officials and military leaders.

In October 2000, Gulfstream was awarded a \$477 million contract by the Air Force to provide for a 10-year lease of five C-37A aircraft and associated contractor logistics support. The first aircraft was delivered in mid-2001. Deliveries of all five were completed by the end of 2002. The five aircraft were later purchased outright by the Air Force.

In December 2000, Gulfstream received an order for one C-37A for the U.S. Coast Guard. The aircraft was delivered in 2002. The service later acquired a second C-37A that was a pre-existing GV. The Coast Guard has used the two C-37As for transportation and command and control missions. The U.S. Navy received a VC-37A in 2002.

Gulfstream delivered a G550 to the U.S. Army in January 2005 and a G550 to the U.S. Navy in February 2005. Two more G550s were delivered to the Navy in 2006, and the service received a fourth G550 in 2010. The Air Force took delivery of one G550 in 2008, two more in 2010, one in 2019, and one in 2020. These 10 aircraft have the designation C-37B.

The Coast Guard acquired one C-37B in 2017 that was a used G550.

In March 2016, the U.S. Navy awarded a \$91.9 million contract to Gulfstream for one G550 green aircraft with airborne early warning structural modifications. The aircraft, which received the designation NC-37B, is replacing a Lockheed NP-3D used by the service for test range support. The G550, with initial modifications completed by Gulfstream, was delivered to the Navy in September 2018. The aircraft then underwent additional modifications by Raytheon.

### Funding

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Development of the GV cost approximately \$800 million.

**Gulfstream G550****Forecast Rationale**

Gulfstream delivered the final commercial G550 in June 2021. At that time, a limited number of G550s, destined for special missions customers, had already been produced but were undergoing modification prior to delivery. No more G550s are to be built.

The G550 was essentially replaced as a civil business jet in the Gulfstream product line by the new G600, which entered service in 2019. The two aircraft were positioned in roughly the same niche of the long-range business jet market.

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